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ABSTRACT

This issue contains nine articles written by Indiana librarians involved in bibliographic instruction: (1) "Information Management Education--Beyond BI (Bibliographic Instruction)" (Gillian S. Gremmels); (2) "Dealing with the New Technology: An Instructional Primer" (Patrick Max); (3) "Librarian/Teacher Partnerships for Better Library Instruction: Two Views" (Freda Kegley and Julie Bobay); (4) "Course-Integrated Library Instruction: Earlham College Revisited" (Marsha A. Miller); (5) "Preparation for Undergraduate Bibliographic Instruction: A Personal Experience" (Mary Stanley); (6) "The Purdue Undergraduate Library Research Skills Instruction Program" (Dana E. Smith); (7) "A Statement of Opinion: Working under Cover To Promote OPAC (the Online Public Access Catalog)" (Matt Hannigan); (8) "Critical Thinking Skills: The Role of the School Library" (Elizabeth Hatton Zuelke); and (9) "Bibliographic Instruction and User Education: A New ILA (Indiana Library Association) Discussion Group" (Emily Okada and Mary Popp). (MAB)

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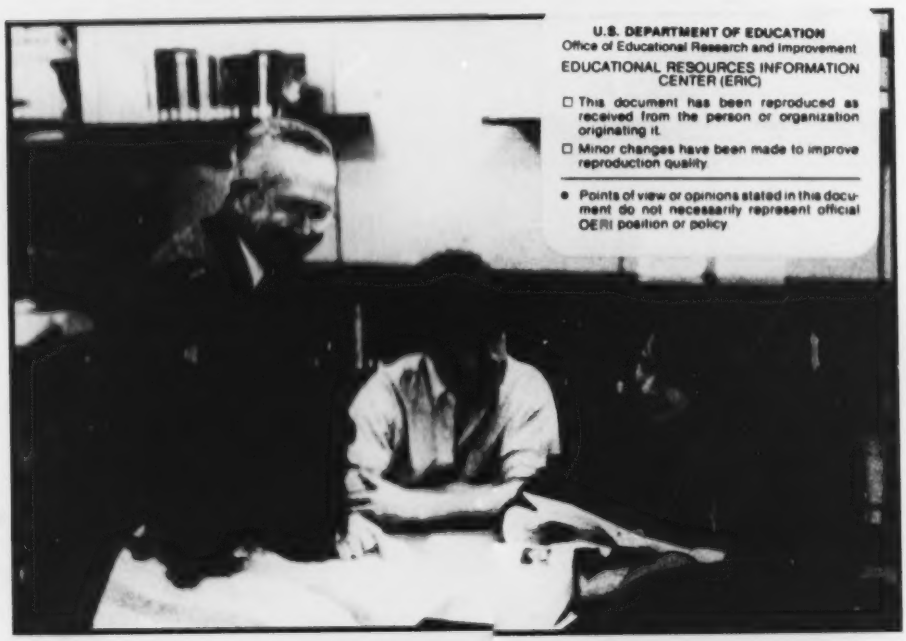
Volume 7, Number 2 1988

"Bibliographic Instruction in Indiana"



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Evan Farber, Director of the Lilly Library at Earlham College in Richmond, and founder of Earlham's nationally acclaimed library instruction program.

**Journal of the
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INDIANA LIBRARIES

Volume 7, Number 2 **1988**

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Guest Editor: H. Scott Davis

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Journal of the
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Introduction

H. Scott Davis, Guest Editor
Associate Librarian and Head
Department of Library Instruction and Orientation
Indiana State University Libraries

Bibliographic instruction (BI) in Indiana is certainly not a recent phenomenon—it has existed in one form or another in all types of Indiana libraries for years. However, 1988 represents somewhat of a pivotal year for the concept in that it appears BI is on the verge of getting organized beyond the local level. This organization is evident in the recent emergence of an Indiana Library Association group with a focus on BI, and in the publication of this special issue of *Indiana Libraries*. This issue consists of nine articles written by Indiana librarians actively involved in instruction. Viewponts, ideas, and program descriptions for Indiana public, academic, and school libraries are all shared here.

In the first article, Jill Gremmels discusses the concept of "information management education" (IME) as a more meaningful label for what has traditionally been called "bibliographic instruction" (BI). Elements of the ideal program are identified and discussed, in addition to several predictable problems likely to hamper the development of such a comprehensive program. While at first glance IME appears as an unachievable ideal, Jill feels it is still worth pursuing in the best interest of librarians **and** students.

Patrick Max, former BI librarian at the University of Notre Dame, offers experience-based advice to public services librarians, and BI librarians specifically, on how to cope with the problems inherent to the implementation of an automated system. Anyone who has ever become frustrated with the limitations of a given system versus patrons' needs will appreciate Pat's thoughts on the subject.

Freda Kegley and Julie Bobay, school and academic librarians respectively, offer their perspectives on librarian/teacher partnerships—a natural alliance not always easy to establish and maintain. Freda, representing the secondary school librarian perspective, asserts a proactive stance on the part of school librarians and suggests several practical tips on fostering teacher/librarian partnerships in the secondary school. From the academic library viewpoint, Julie underscores the importance of using sound marketing principles (such as audience analysis) in BI program development. She goes on to illustrate the payoffs of faculty/librarian cooperation in a large university community by describing IU-B's Freshman English Composition program.

While much has been written about course-integrated library instruction at Earlham College, Marsha Miller brings us up-to-date with what is currently going on at Earlham and with Evan Farber. Presented in interview format, Marsha's article is the result of a day-long visit to Earlham College's Lilly Library last spring, during which she was able to talk informally with Farber and members of his staff about their nationally recognized program.

Mary Stanley of IUPUI shares her approach to preparing for a classroom library instruction session. After briefly describing the library program at IUPUI, Mary touches on how she handles scheduling, the faculty interview, selecting strategies and materials for the session, and actually conducting the session. This article will be of practical interest and helpful to beginning BI librarians, as well as those of us who like to know "how we're doing it" in relation to our colleagues.

Dana Smith presents a detailed description of Purdue's undergraduate library research skills instruction program, from program rationale and objectives to program evaluation and future plans. To give an indication of how well-received this program has been, Dana and two of his colleagues, Judith Pask and Donna Wheeler, were awarded the 1987 "Helping Students Learn Award" from the Purdue Alumni Foundation for development of the program. The award was established by the Purdue Class of 1922 to "improve the education experience of students by stimulating teachers to create innovative approaches to the process of helping students learn, and to recognize those who develop significant advances in education."

From the public library sector Matt Hannigan presents an amusing, yet informative, narrative on how Indianapolis-Marion County Public Library provides instructional support for their automated system. Public librarians who already have automated systems or are anticipating their arrival, and even those with traditional access, will pick up some good information from Matt about library instruction for public library patrons.

Elizabeth Hatton Zuelke, a graduate student at Indiana University, outlines the instructional role of the school library media specialist and summarizes one method for bibliographic instruction in the public schools. The reader may want to examine the new national guidelines for school library media programs, *Information Power*, jointly published in 1988 by the American Library Association and the Association for Educational Communications Technology in order to gain more details concerning the role of the school librarian as curriculum designer.

The final article, by Indiana University's Emily Okada and Mary Popp, tells of the earlier-mentioned organization of a state BI Discussion Group within the Indiana Library Association. Such a forum has long been needed in the state. We all owe a tremendous professional thanks to these two individuals who have worked so hard to "get us organized." Their article should provide you with all the information necessary to make your decision to join the group an easy one.

While this special issue of INDIANA LIBRARIES seemed to be a long time in coming, I hope those involved in its production share my feeling that the effort was worthwhile. My sincerest personal and professional thanks to my colleagues, the writers, who contributed their time, expertise and patience to the issue. And to Daniel Callison, a special thanks for provid-

ing me with my first true editing opportunity.

Let's all get involved and stay involved! Here's to a steady continuation of BI publishing, presentation, and discussion among Indiana's bibliographic instruction librarians. Here's to the future of BI in Indiana.

HSD 9/88

"Information Management Education—Beyond BI"

Gillian S. Gremmels,

Coordinator of Public Services,

Roy O. West Library, DePauw University

Librarians occasionally ask themselves and others if bibliographic instruction is the appropriate term for the constellation of skills and concepts they teach. The term "bibliographic instruction" has some drawbacks: it is a phrase of librarianese which is meaningless to anyone outside the field, neither immediately comprehensible nor easily interpretable. It also suggests teaching people how to use the library to compile bibliographies. This article advocates use of the term "information mangement education," which implies greater conceptual breadth and mental activities both before and after library use, and describes an ideal information management education (IME) program for a liberal arts college.

Five Elements of an IME Program

- **Driving force of all services**

First, IME should drive all other public services, and, because in a user-oriented library technical services departments exist to support services to clients, this is to say that the instructional mission should drive the entire library. The librarians should plan their services and draft their policies with education in mind. This includes reference, end-user searching, term paper clinics, and applicable areas of archives and media services. Information delivery rather than instruction may be appropriate in special libraries, but in educational institutions, the library has a legitimate and important mandate to instruct.

- **Sensitivity to students**

Second, the IME program should take into account students' needs and feelings. Reference librarians know that many students are debilitated by their insecurity and fear when faced with library research. This is now being confirmed by studies such as Mellon's, in which she found that 75 to 85 percent of composition students suffered from "library anxiety."[1] Dunn discovered six psychological needs that motivate students to seek information. In rank order from greatest need on down, they are: 1) need for other-approval; 2) need for success in the chosen profession; 3) need for self-extension; 4) need for self-approval; 5) need for intellectual stimulation; and 6) needs related to a successful college experience.[2] The ideal IME program would test for these attitudes and build on the knowledge provided by the test results. Too often librarians (and other faculty, too, for that matter) lament that students are not in

the desired frame of mind; educators must instead accept students where they are before attempting to take them where they need to be. Many need to be affirmed before they can be taught.

Mellon has also applied Perry's theory of intellectual and ethical development to library instruction. College freshmen can be expected to be at the "Dualism" stage, in which they "view the world in terms of right or wrong, and therefore expect that there is a 'right' answer to every question."[3] From Dualism they progress to "Multiplicity," in which they are ready to accept several perspectives on some problems, although they still retain a sense of dualism about many issues. Many undergraduates are in this stage when they graduate, although some proceed to the "Relativism" stage and "become aware that there are few areas in which things can be known absolutely and thus recognize the necessity of supporting information to back up opinions."[4] The proposed IME program would incorporate Perry's theory; students would be instructed at several points during their college careers, and instruction would be tailored not only to content but to the students' stage of intellectual development.

- **Conceptual breadth**

Third, the IME program, to earn the name "imformation management education," must have conceptual breadth. Merely teaching students how to use library reference sources is not adequate. The *Reader's Guide* may not always exist in its familiar green-covered paper format, but students will, throughout their lives, need to find reliable information on topics about which they know little, evaluate that information, and use it to make decisions and solve problems. On the job, they will have to do this effectively and efficiently. In their personal lives, there may be less pressure to be speedy, but the tendency of people to pack as much into their lives as possible suggests that efficiency is desirable in this realm, also.

Jakobovits and Nahl-Jakobovits have created a taxonomy of user behavior which will be used as a conceptual framework for the IME program. It is reproduced on the next page.[5] The goal of the IME program is to bring the students to Level 3 in all of the domains by the time they graduate.

Oberman and Mellon have each done a great deal of pioneering work in developing library instruction which incorporates abstract reasoning and problem solving. Mancall has urged the addition of critical thinking skills, which she summarized as the abilities of "distinguishing between verifiable facts and value claims; determining the reliability of a source; determing the factual accuracy of a statement; distinguishing relevant from irrelevant information, claims or reasons; detecting bias; identifying unstated assumptions; identifying ambiguous or equivocal claims or arguments; recognizing local inconsistencies or fallacies in a life (sic) of reasoning; distinguishing between warranted or unwarranted claims; and determining the strength of an argument."[6]

The ideal IME program goes far beyond teaching reference tools to include information for decision making, problem solving, critical thinking, and discipline structure. Keresztesi's theory of discipline maturation, which he linked to the types of information sources one could expect to find, is an excellent, although complex and upper-level, concept to include in the IME program.[7]

- **Curriculum integration**

The fourth essential component of the IME program is integration into the curriculum. From a purely practical standpoint, students pay more attention to instruction when it is related to an actual assignment for a class they are taking, and most students will not be sufficiently interested in a library skills course to sign up on their own. But there are better reasons for curriculum-related instruction. As Renford and Hendrickson pointed out:

> When librarians and instructors work together—and here we are entering the domain of course-integrated instruction—the nature of the courses themselves may change, with more emphasis placed on independent library investigation as an integral part of the course.[8]

The Monteith College experiment convinced Knap that, in order to be effective, "the library program must be not merely presented in the context of 'content' courses, but truly consistent

TABLE 1

TAXONOMY OF LIBRARY SKILLS AND ERRORS

	Affective Domain	Cognitive Domain	Psychomotor Domain
LEVEL 3 Internalizing the Library	A3 **Affective Internalization** Demonstrating support for the library perspective on society and self. (= library conscience and morality versus negligence)	C3 **Cognitive Internalization** Acquiring personal knowledge and subjective intuition of a scholarly discipline. (= disciplinary connection versus lacking connection)	P3 **Psychomotor Internalization** Performing cumulative searches in one's field and promoting the library in one's life. (= lifelong library use versus library disuse)
LEVEL 2 Interacting with the library	A2 **Affective Interaction** Demonstrating continuous striving and value preferences favorable to the library and its system. (= positive library attitudes versus library resistance)	C2 **Cognitive Interaction** Acquiring objective knowledge of search sequences, their analysis and synthesis. (= library search protocol versus idiosyncratic search protocol)	P2 **Psychomotor Interaction** Negotiating search queries and performing a single, one-time search that meets a current information need. (= library proficiency versus library ineptitude)
LEVEL 1 Orienting to the library	A1 **Affective Orientation** Demonstrating willingness to practice library tasks and maintaining selective attention. (= library adjustment versus library maladjustment)	C1 **Cognitive Orientation** Acquiring representive knowledge and comprehending library-relevant distinctions. (= library map and glossary versus library ignorance)	P1 **Psychomotor Orientation** Performing physical operations (hands on experience, browsing and walking around). (= library exploration and efficiency versus library avoidance and inefficiency)

Reprinted with permission of the American Library Association, "Learning the Library: Taxonomy of Skills and Errors," by Leon Jakobovits and Diane Nahl-Jakobovits, appearing in *College and Research Libraries*, May, 1987; vol. 48/#3, copyright © 1987 by ALA.

in goals and methods, in tone and style, with the overall educational program in which it occurs."[9] Course-integrated instruction gives students the benefit of the librarian's and the professor's knowledge and can make natural the presentation of discipline structure and communication patterns.

- **Unite information finding with information use**

Last, the IME program should remove the artificial division between information finding and information use. Too often, search strategy is presented as a self-contained, linear process. Librarians teach students how to find information, as a separate segment of research, and professors teach students how to apply the information (or, perhaps more frequently, students are expected to figure this out on their own). Experienced researchers know that the process is more cyclical: one prepares a strategy, finds some information, uses it, follows a chain to other information, revises some ideas, finds some more information, etc. For this reason, Mellon has encouraged librarians to build "feedback, or returning to preceding steps in the process as necessary" into the strategy they teach.[10] But when librarians are permitted into a class only for a one-hour lecture and restricted to teaching just the use of reference sources, the division between finding and using information is perpetuated. Greater integration can break it down.

Outline for the Program

- **The freshman program**

My IME program for a liberal arts college is divided into three parts, incorporating Perry's theory and the Jakobovits taxonomy. The Orientation level of the taxonomy would be achieved during the freshman year by means of a self-paced workbook which all students would complete. During the sophomore and junior years, selected librarian-professor integrated courses would take students to the Interaction level. Finally, students would internalize the library and learn about disciplines as seniors, when they would take a half-credit library course concurrently with their capstone courses or senior seminars.

A student's relationship with the library would begin with a pretest given during orientation week. Earlham has used such a test to evaluate incoming students' library skills and pinpoint areas in which some need special help.[11] The instrument would test these items from the cognitive domain but would also include questions from the affective and psychomotor domains of the Jakobovits taxonomy. The results of this test would allow the librarians not only to meet the needs of these particular students but also to compare groups of students over time and be aware of changes in the population.

Also during orientation week, or very early in the term, the students would attend a presentation by the librarians. The purpose of this presentation would be to welcome the students to the library, address the issue of library anxiety and communicate to students that their fears are common and normal, and explain the workbook assignment. The workbook would be due by midterm of the student's first term on campus and would be graded pass/fail by the librarians. Students who did not pass all or part of the workbook would be required to keep working at it until they completed it successfully.

Because freshmen are at the Dualistic stage of intellectual development, IME for this year is simplistic and focused on tasks which have clear

right and wrong answers. The goals for the freshman year are for the students to be able to find the library on the campus and locate important service points in the library; to follow library procedures for using materials in the library and checking books out; to recognize the public services librarians as the people to ask for help; to implement a basic, linear search strategy as presented in the workbook; to be able to use several basic tools (catalog, Wilson indexes, etc.); and to identify several distinctions between the college library and other libraries the students have used in the past.

- **Sophomore and junior years**

During their sophomore and junior years, the students would reach the Multiplistic stage of development. IME would be mainstreamed into as many 200- and 300-level courses as possible, and the professors would grade on research process as well as product. Search strategy with feedback loops would be introduced, as would some critical thinking and problem solving opportunities. Specific objectives would have to be worked out for each course, but the overall goal would be to bring students to the Interaction level of the taxonomy by the end of their junior year.

- **The senior year**

Seniors would enroll for a half-credit, librarian-taught course in conjunction with their capstone courses. By the end of their college careers, students should understand the "big picture" of the information world. They should understand how knowledge is created, stored, and accessed in the discipline of their major. The presence of students from many disciplines in the library course would make for interesting discussion and comparison. Students should, by this time, see information as something they will need throughout their lives and plan to use libraries as information sources. They should also be aware of the value of other information providers such as the news media and consultants or experts. They should be competent in the full range of problems solving and critical thinking skills mentioned above. They should, in short, be at the Internalization stage of the taxonomy. For students to achieve all this, they would need to be at the Relativism/Commitment stage of intellectual development, which, according to Perry, some people do not attain until they are in graduate school. The post test, which would be administered at the end of the senior year, should be constructed to reveal this as well as to test for the upper-level IME skills.

Too Idealistic? Stumbling Blocks to the IME Program

This ideal IME program is an ambitious plan, and it could not be achieved without solving some problems. These problems would be present, in greater or lesser degrees, on any campus.

The first barrier is faculty attitudes and understanding, both of the value of IME and the abilities of librarians. Librarians are second-class citizens on many campuses, seen by their classroom colleagues as peripheral to the educational enterprise. This attitude is well-entrenched and extremely difficult to change. Some professors would be resistant to grading research papers on process a well as content. Further, many faculty are themselves not especially good information seekers, but they are generally unaware of their ignorance. People in this situation may not see a need for as much IME as this plan calls for, or indeed any at all. And because faculty control the curriculum committees at most colleges, incorporating tests, required workbooks, and

capstone co-courses may be difficult, if not impossible.

Solutions that seem to have worked, at east temporarily, in some places include a charismatic librarian and a supportive administration. Lynch and Seibert cited several institutions in which enthusiastic deans or presidents provided the impetus for BI.[12] At Earlham, the Quaker ethos and spirit of respect and cooperation between librarians and classroom faculty have helped greatly,[13] as have the professionalism and personality of Evan Farber. The true test of Earlham's program will be in its continued presence as it is administered by others in the future. Librarians might also try to use solid IME programs, well-grounded in theory and backed by data, to persuade faculty members (another good reason for testing students).

The second problem to be faced is student attitudes. During their first year at college especially, students have many emotional and intellectual tasks, and their motivation for learning information management skills may be low. Students' lore generally does not value the library, so peer pressure works against the librarians. People who work at colleges that use self-paced packets report that the students hate the workbooks, although they eventually come to see their value.

The solution to this problem is first to change faculty attitudes. If the faculty support library instruction and communicate that to the students, student opposition will decrease. Librarians also need to be tougher. We are so service-oriented that it pains us when someone dislikes our assignments. If the workbook, etc., have made it through the curriculum channels, the librarians should stand firm and be confident of their ability to prescribe what's best for the students.

The third problem is with librarians, both in teaching ability and workloard. Tuckett and Stoffle have advocated conceptual IME but have pointed out that:

> this approach demands a very high level of teaching ability. Instruction librarians must possess a clear understanding of the theoretical principles underpinning this approach, both in order to design specific methodological applications and in order to judiciously apply those principles in the classroom to bring structure to an open-ended learning environment. This approach also requires that librarians be comfortable as teachers in such an open-ended classroom situation.[14]

More library school and continuing education courses should concentrate on teaching ability and educational theory. Libraries can also ask candidates for public services positions to teach a lesson during an interview, just as candidates for other faculty positions are often asked to do.

One solution to the work load problem is hiring more teaching librarians, but the financial condition of many colleges makes this impossible, regardless of good intentions or administrative support. Another possibility is rethinking the provision of all public services with the goal of freeing librarians from other duties to allow them to devote more time to teaching and preparation. Biggs suggested decreasing the hours of reference service in her controversial but provocative article, "Replacing the Fast Fact Drop-In with Gourmet Information Service."[15] Ford recommended that librarians keep office hours, just like other faculty, and asked

> Academic librarians must ask whether their clientele really need a reference desk or whether other services would meet their needs in a more effective manner. Without spending so much time and energy providing service from a reference desk, could we as librarians

devote our efforts more effectively to developing more appropriate and useful services for our primary clientele?"[16]

Using reference statistics and a needs assessment, librarians could revamp their public services significantly.

Librarians have been pondering solutions to these problems for some time, and the above-mentioned barriers to wide implentation of IME programs do not lend themselves to quick remedies. Still, the goal is worth the effort, for librarians in the continuing struggle for academic equality, and for the most important people concerned—the students.

Notes

[1]Constance A. Mellon, "Library Anxiety in College Students: A Grounded Theory and Its Development," *College and Research Libraries* 47 (March 1986): 162.

[2]Kathleen Dunn, "Psychologial Needs and Source Linkages in Undergraduate Information-Seeking Behavior," *College and Research Libraries* 47 (September 1986): 477

[3]Constance A. Mellon, "Information Problem-Solving: A Developmental Approach to Library Instruction," in *Theories of Bibliographic Education*, ed. Cerise Oberman and Katina Strauch (New York: R. R. Bowker Co., 1982): 79.

[4]*Ibid.*, p. 80

[5]Leon A. Jakobovits and Diane Nahl-Jakobovits, "Learning the Library: Taxonomy of Skills and Errors," *College and Research Libraries* 48 (May 1987): p. 207.

[6]Jacqueline C. Mancall, Shirley L. Aaron, and Sue A. Walker, "Educating Students to Think: The Role of the School Library Media Program," *School Library Media Quarterly*, 15 (Fall 1986): 21.

[7]Michael Keresztesi, "The Science of Bibliogrphy: Theoretical Implications for Bibliographic Instruction," in Oberman and Strauch, pp. 1-26.

[8]Beverly Renford and Linnea Hendrickson, *Bibliographic Instruction: A Handbook* (New York: Neal-Schuman Publishers, Inc., 1980), p. 74

[9]Patricia B. Knapp, *The Monteith College Library Experiment* (New York: Scarecrow, 1966), p. 88.

[10]Mellon, "Information Problem-Solving," p. 79.

[11]Evan Ira Farber, "Library Instruction Throughout the Curriculum: Earlham College Program," in *Educating the Library User* ed. John Lubans, Jr., (New York: R. R. Bowker Co., 1974),p. 249.

[12]Beverly P. Lynch and Karen S. Seibert, "The Involvement of the Librarian in the Total Education Process," *Library Trends* 29 (Summer 1980): 127-38.

[13]Farber, p. 147.

[14]Harold W. Tuckett and Carla J. Stoffle, "Learning Theory and the Self-Reliant Library User," *RQ* (Fall 1984) : 63.

[15]Mary Biggs, "Replacing the Fast Fact Drop-In with Gourmet Information Service," *Journal of Academic Librarianship* 11 (May 1985) :68-70.

[16]Barbara J. Ford, "Reference beyond (and without) the Reference Desk." *College and Research Libraries* 47 (September 1986) ; 492.

Other Suggested Reading

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- Kobelski, Pamela, and Mary Reichel. "Conceptual Frameworks for Bibliographic Instruction." *Journal of Academic Librarianship* 7 (May 1981): 73-77.

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- Oberman, Cerise. *Petals Around a Rose: Abstract Reasoning and Bibliographic Instruction*. Chicago: ACRL, 1980.

Dealing With the New Technology: An Instructional Primer

Patrick Max,
Director of Libraries,
Castleton (VT) State College,
formerly Instruction Librarian,
University of Notre Dame

Preface

When instructional librarians are faced with training library staff and/or patrons in electronic systems, it is probably not unusual for them to begin looking for "how-to" articles in the professional literature. In fact such a search may be a reflex action. Having faced this very situation over the past year, having had very modest previous experience in this area, and being somewhat apprehensive regarding my ignorance and the job facing me, I reflexed thus. Now, having passed through the initial planning, preparation and implementation stage, I would like to outline the "real" "how-to" of training for the new technology.

The "Real" Problems

The real problems that instructional librarians confront in the process of training for computerized systems are those which go beyond any narrow conception of their roles as librarians or teachers, or of the library as a distinct institution. The crucial problems do not revolve around which video projector or LCD display gives the most satisfactory results, or where to obtain a useful set of overheads, or a syllabus, or the like. The real problems lie in the systems themselves and in our attitudes towards the systems and are not uniquely library problems at all. Rather, they are problems which face our society in general.

The central problem, quite simply, is that we are intimidated by technology. We act as if in subservience to technology, and this condition is as frequently present in our highest administrators as it is in our most unsophisticated patrons. Further complicating this condition is the discrepancy between the promise of technology and our expectations, and again between our expectations and the product that is actually delivered. Ambivalence comes with the territory. One ought to have high hopes for the new technology; one ought, also, to be rather skeptical regarding products currently on the market. Reasonable progress is the result of this hope and skepticism along with a basic understanding of one or more systems and along with the ability to articulate the needs of librarians and patrons.

It is possible to overstate the influence of the intimidating nature of the new technology in the library world as apposed to the general population. Librarians, buried under the avalanche of materials produced by the "information revolution," have

long anticipated the arrival of electronic information handling systems. Ostensibly search systems would get them out from under the weight of "too much" information, of too large a haystack in which to search for the needle. Before these systems were even a reality, they existed as an unarticulated need in the mind of librarians, especially public service librarians in research institutions. What reference librarian has not felt helpless or frustrated when faced by research demands that traditional library systems cannot handle? So, although some in the profession are hoping to retire before they pay the "dues" required by the acquisition of knowledge necessary to take advantage of computer systems, most look forward to the new systems with great eagerness. But if we are not intimidated by the new technology, what indeed are our problems?

Our true dilemma is the result of the discrepancy between our understanding of the promise of the new systems and the way in which the systems actually manifested themselves in practice. It is also the result of our longstanding professional timidity.

The arrival of the first electronic database in a library is a singular moment in an institution's history. It marks the point at which technology is harnessed to bring order to the masses of materials produced by the information revolution. If the system being introduced is reasonably well designed, this may be a most felicitous moment in the existence of a library. However, as the third, fourth, or fifth system is introduced, each with its own distinct protocol, each with its own quirks and shortcomings, the illusion of uncomplicated access to research materials is forever laid to rest. Somewhere along the line, one loses a facility with the first protocol while acquiring the fourth or fifth. One's perception of these new systems as a simple way to bring order and clarity to research ends (at least in the short run) in frustration.

Further complicating this fall into the real world is the traditional humility of the profession which is only intensified by our sense of subservience to, though not fear of, the new technology. We accept systems as they are designed and sold, as a *fait accompli,* as if we possessed no rights or intelligence that might permit reasonable adaptation of the systems to make them suitable to our goals. To my knowledge, there is *no perfect, or at least no reasonably perfect system, that is up, running and fully implemented.* Few systems are very close. We share in the responsibility for "bad" systems.

In the profession generally, and specifically in public services, we have acquired the bad habit of ignoring the patron's needs and our own best interests. This is not true in the sense that we callously disregard them, but we have found that representing these points of view often meets with frustration, and we have become unable or unwilling to clearly articulate these interests. Over the years we have acquired the habits of defeat, we do not think enough of ourselves and our positions to clearly articulate our needs and then to aggressively represent them. This is as much true within the library as it is outside the library. Outside the library we lower our expectations until they match the product currently being sold: the system doesn't have cross references, very well then. .; the keyword/Boolean module doesn't function as promised, oh well . . .; our institution doesn't have the funds to implement enhancements, well O. K., you know better than . . . . Item by item we capitulate until our entire agenda is compromised.

If these problems of subservience generally compromise the best intentions of the profession, they certainly undercut public services. Perhaps distinctions between public and technical services are not real; after all, services produced through the activities of both staffs are useful to the public. However, in an age when the ability to quantify both problems and responses is considered the benchmark of modernity, and at a time when economic cutbacks based on quantifiable values are a reality, the work that public service departments perform is in serious jeopardy. Because the repetitive tasks performed by technical services are quantifiable and readily ordered by electronic systems, technical service areas have often driven the computerization of libraries. As a result public service librarians have lost esteem and a sense of purpose. They have become medicine men in the age of the neurosurgeon. That part of the profession charged specifically with articulating the need of scholars and patrons is often confused or silent. If public service libraries are not being locked our of the design process, they lock themselves out. This failure of confidence often results in the casual acceptance of systems that seem to evidence little understanding of the needs of our patrons.

Solutions

There are no effortless or quantifiable or ready-made solutions to the problems outlined above. This is not to say that these problems are "unsolvable," if by this we mean that nothing can be done to alter the situation. In fact, for most experienced public service librarians, the remedy to a great extent lies within their own powers to effect. I can think of several "steps" that may be taken in order to change the current manner of dealing with technology. These first "steps" pertain to an understanding of the librarian's role within the profession and with the ability to articulate that role with clarity and force:

1. You must know what it is that you do, why you do it, and have some sense of what your patrons do and of why and how they do it.

2. You must value your work (look upon it as more than a simple skill) and respect the work of your patrons.

3. You must accept full professional responsibility for achieving the best possible research environment for your patrons.

4. You must be able to articulate clearly and precisely your work and your needs and those of your patrons as well.

5. You must be able to articulate your concerns forcefully and with confidence.

Which is to say that we must begin again at the beginning; take off the emperor's clothes; ask ourselves who we are and what it is that we do. Until we understand ourselves clearly, we will be buried by technology. The humility of the profession is, without this sort of self examination, a false humility that can only result in mimicking technology in order to share its prestige. If, when we have thought about our profession, we have discovered something of value, then as individuals each of us must take responsiblilty for nurturing that thing of value. Having thought about our work we must be able to articulate our needs with force and clarity. That good and great humility comes from knowing what you do and sharing it freely, and not from reticence in the face of faulty thinking and intimidating "experts."

Along with the several concerns expressed regarding our own work in the profession there are several further requirements accociated with our relationship to the new technology:

6. You must have some faith in, some hopes for, the new technology.

7. You must have a general understanding of the new technology.

8. You must be skeptical regarding the new technology.

9. You must have the confidence to risk asking naive questions about the new technology.

10. You must require technocrats to respond to your questions, simply, clearly and directly, as you must respond to the questions of your patrons.

There seems already to exist a reasonable amount of faith in and hope for the new technology, perhaps, in individual cases, more than is warranted. As we begin to use each system, we should understand what the system is and how it works including what principles underlie its design. It is not enough to know that to get "A" to appear on the screen you must type "X" and "Y". With the pressure of all one' s work, it is not easy to find the time to think about these systems, but without some kind of real understanding of these products, we can only reiterate the endorsements found on sales blurbs.

Be skeptical. In one sense these are products like any other product you purchase — like the badly constructed book or the deodorant that doesn't work. The myth of the totally "user-friendly" system and the eager expectant mass of hackers in just that — a myth. Which is not to say that some of your patrons may not be relatively sophisticated regarding electronic systmes, but most will not be, and all will need some help in approaching the system.

Ask questions. How many of us have sat in a meeting on some aspect of technology and nodded our heads and not understood a word that was being said — and thus given tacit consent to the "emperor's clothes." How many of us have sat through lectures where no simple, helpful introduction to terms and concept was given until two-thirds of the way through the presentation, or not all? It is time that we all ask questions without worrying about whether or not we will be misunderstood or humiliated. What does the "ROM" in CD-ROM mean? How do the discs work? How can they be helpful in the work facing us? How may they be compared to other products, etc., etc.?

Finally, having asked a naive question, you ought to require a clear and reasonable response; just as when your patrons ask questions they ought to be given simple, clear and reasonable responses. Not infrequently "experts" indulge in obfuscation and jargon to enhance their own prestige or to hide the fact that they cannot respond to a question because they haven't thought about the issues being raised. If you have the intelligence to do well in Latin 400 or Econ 109 and retain an open mind in regard to learning a new technology, you do have the ground sense necessary to understand basic concepts and to communicate regarding your work. However, remember, that like new reference librarians, technocrats ought to be permitted to say "I don't know; I'll find out and let you know." Such exchanges are as critical for the systems experts as they are for librarians. In the absence of such an open dialogue, the new technology will appear obscure, foreign and will never realize its true potential.

Now, in regard to all of the above practical problems facing instructional librarians, I would like to offer practical solutions. Use your common sense. Survey the literature. Find out what other librarians are doing. Ask yourself what needs to be said or done and say it clearly, simply and accurately without the use of jargon. Incorporate training on electronic systems into your general instructional program, remembering that people learn in a variety of ways. Do not rely upon help screens to do all of the instruction on a system. Supplement your traditional teaching methods through the purchase of an LCD (liquid crystal diode) display device. Whenever teaching materials and screens are to be designed, take the time to do a layout that is simple, clean and uncluttered; less is more. But, remember, the real issues are those that are perennial; they are issues of thought, sweat, work and discovery, and here less is never more.

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Librarian/Teacher Partnerships for Better Library Instruction: Two Views

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**Julie Bobay, HPER Librarian,
Indiana University-Bloomington,
formerly Instruction Librarian, IU-B**

The importance of integrating library instruction into students' learning experiences has been stated many times in the library instruction literature. Attempts at integrating library instruction into the curriculum have convinced many librarians that they must take new, more active roles in communicating and closely cooperating with teaching faculty who control students' classroom experiences. To be effective, we must not only convince ourselves of the importance of library instruction; we must also convince classroom instructors. Librarians' attempts to market library instruction to faculty members have met with mixed successes. This article describes the "marketing" approaches and viewpoints taken by an Indiana school librarian and an Indiana academic librarian.

The View from a School Librarian

Freda Kegley

A successful library is not measured by a large inventory count, but the use that is made of the materials it contains. Elementary students are often scheduled for regular library classes, where the librarian can teach skills and expand the classroom curriculum through directed exploration. If the librarian knows the elementary school curriculum well, library skills integration can be done without the help of the teachers. However, at the junior high and senior high school levels, the librarian may no longer have regular specific class time to expand student research skills or stimulate intellectual curiosity. Therefore, the secondary school librarian must effectively solicit teacher assignments that require use of the library's resources and thereby continue the development of research skills in students.

Reach Students Through Teachers

Each librarian must make a commitment to reach students through the teachers. Techniques used will, of course, be based on the librarian's personality, enthusiasm, and level of commitment to the importance of the library in the learning process. Reaching all subject areas represented in the curiculum requires an individualized approach with each teacher. The librarian should become a part of teacher/student conversations about classroom activities. The librarian should gather personal interest items and use displays in hallways. These are all ways of learning about the curriculum and

individual teachers' approaches to teaching.

Send memos! Reach teachers with memos about general interest items. Keep in mind that the most effective memos include personal notes attached to them. These personal notes can alert teachers to anything from current magazine articles, to new materials, to reminders about little-used materials. General memos should be spaced at regular intervals. Important information needed between memo should be sent by personal note or direct contact with the teacher.

Another way to help teachers make more efficient use of the library is to send them a monthly calendar. The calendar could include birthdays of famous people in various curriculum areas, historical events, national holidays, and recognition weeks. These monthly calendars should not be designed as a school events calendar, but as a curriculum enhancement tool. These calendars could be posted for student information as well.

Librarians can demonstrate interest in the curriculum more directly by serving on a textbook adoption committee. If it is not possible to serve on a committee, secure copies of currently adopted textbooks as soon as possible. By using the tables of contents as guides, specialized bibliographies (e.g., an audiovisual resources list) could be developed for use along with the textbook. In such a specialized bibliography, library resources could be organized chapter by chapter. What better way to greet teachers in the fall than to have library materials accessible by textbook chapter in their particuar subject areas! Further, such a service provides the librarian with a productive way of identifying gaps in the library collection.

Working WITH Teachers, not FOR Teachers

At first glance, it might appear that the librarian is working "for" the teacher. This often lures a teacher to begin supporting the library and working "with" the librarian. Project planning becomes a joint effort. Teacher/librarian cooperation can also extend itself beyond an isolated library lesson for a specific class. Cooperative efforts can also benefit a wider segment of the school population. For example, the need for consistency among subject departments in bibliographic citation form is not an uncommon problem in schools and sometimes causes frustration in the library—not only for the librarian, but also for the students. In this instance, the librarian could work to facilitate cooperation between teachers. The English teachers could establish a standard bibliographic form in cooperation with teachers from other subject departments. The advantages of a standardized school bibliographic form are obvious—students can learn one way of citation and it will serve them in all areas of the curriculum, and any teacher can help any student on a bibliography and know the effort will be accepted by fellow teachers.

Librarians can make a difference in all areas of education. They must find their inroads into the classrooms by selling library resources in innovative ways. Once teachers begin to view the library as an integral part of the curriculum, the library will truly become an essential element of each student's education.

The View from an Academic Librarian

Julie Bobay

Around the country, academic librarians have reported puzzlement over low attendance at such programs as term paper workshops, credit courses in library skills and library tours. The low attendance was especially difficult to understand given an obvious need for the information by many student. Many librarians assumed their publicity was not adequate, and changed the color of announcements, methods of distribution, and scheduling. Often these changes made no difference, and many programs have been dropped.

Marketing Library Services

These anomalies have sparked several good articles about librarians' failure to apply sound marketing principles to library programs. We've often violated a fundamental marketing principle: clearly define an audience with demonstrated needs BEFORE designing the program. To define an audience, we must gather real data, not subjective anecdotal perceptions gained through our contacts with a small fraction of the student body over the reference desk.

Not many librarians have gathered objective data on students' needs for library instruction. There are many reasons for this, not the least of which is the time demanded to collect this type of data. However, I believe the real explanation for skipping the data collection step is that we believe that we know students' needs. We pay dearly for this belief with repeated "errors" in the "trial and error" approach to program planning. The price we pay comes in the form of wasted resources and librarians' frustration over poorly-attended programs.

Programs offered to such broadly-defined groups as "freshmen writing terms papers" are a good example of this mistake. After explaining how to find an article on a topic for the 250th time at the reference desk, we plan, publicize and offer several sections of a Term Paper Workshop which covers that skill, yet nobody comes. Why not? Perhaps because students don't want to know 'library skills"; perhaps they only want to know how to accomplish *their assignment* for a particular class.

Integrated Library Instruction

This leads me to believe in the importance of integrating library instruction into the academic environment in which students operate. A challenge posed by this integration is that it removes complete control for library instruction from librarians. It forces us into the new role of convincing teaching faculty that we, as librarians, can and should work with the teaching faculty to achieve effective library skills instruction. Classroom faculty must be as commited to this goal as we are, and we must take responsibility for showing them the importance of this partnership. This is not a novel idea—Evan Farber of Earlham College, Bibliographic Instruction Librarian of the Year for 1987, has been advocating this approach for years.

Indiana University is different from Earlham College in many respects, especially in size. When I became Instruction Librarian at IU-Bloomington, with a student population of over 30,000 and a teaching faculty of almost 1500, I was considerably intimidated and somewhat distressed when I heard people talk about the importance of integrating library instruction into the curriculum. In scope, the task seemed comparable to the preservation challenges facing

libraries with huge, disintegrating collections.

However, after experiencing first-hand a few notable failures of the "Term Paper Workshop" variety, I became more open to the idea of course-integrated instruction on a large scale. This is the approach taken quite successfully at both Ohio State and Illinois, and although each institution seems to have found different programs that work best for them, I thought we should be searching for one that would work at IU-Bloomington.

English Composition Program

After reaching consensus on the importance of course-integrated instruction, the IU-B Libraries decided in 1985 that we could best deliver effective introductory library instruction through the mandatory Elementary Composition course. The English Department at Indiana University-Bloomington offers approximately 160 sections of W131, Elementary composition, per year, with 25 students per section. English instructors face several challenges in teaching writing skills, including motivating students who are generally uninterested in writing without recourse to a subject matter which might interest them, and reliance on a large corps of English graduate students to teach all the sections.

For years, the Libraries had been offering a library tour to all W131 instructors who requested one. Over time, librarians and instructors became dissatisfied with the tours. There was insufficient time to do a tour of the large building and give any meaningful instruction. Instruction given on tours was difficult to hear and students were embarrassed to be seen by their friends on a library tour. There was no opportunity for practice with basic tools. Librarians were "burnt-out" after giving hundreds of identical tours. However, instructors still called in large numbers to arrange tours; evidently it was their best option.

The Libraries approached the English Department with a proposal to prepare a program to teach basic skills in library use (card catalog, periodical indexes and newspaper indexes.) The program would no longer include a guided library tour; a self-guided tour was made available and the class presentation was built on the premise that students had completed the tour. The precious 50-minute class period would be used for library instruction.

Implementation and Evaluation

The English Department's Composition Committee agreed to provide advice to the librarians who would develop the lesson. They confirmed an emphasis on periodical indexes and suggested the lesson be made concrete. In order to collect information from the instructors themselves, the Libraries sent a questionnaire to all W131 instructors who had brought a class to the Libraries the previous semester. Based on information from the Committee and the instructors, the Libraries developed a slide program, narrated by a librarian, which included in-class exercises using quarterly issues of Wilson indexes. This program met the marketing precept of defining an audience and developing a service designed to meet needs of those individuals.

Another critical part of a successful marketing program is evaluation. To try to evaluate the effectiveness of the program, the libraries sent questionnaires to all instructors and students

who had experienced it. From those questionnaires, we learned that the lesson helped make a complicated process less complicated, and even students who complained that the session was "boring" and "told us a lot of stuff we already knew" recommended that all W131 classes should have the lesson.

In spite of some ambiguous and somewhat mysterious results, we did identify several clear reactions to our program. We learned that the self-guided tour was not effective, the lesson was too passive and did not engage the attention of students, the lesson covered too many concepts in too short a time, and the inclass exercise was not a real enough experience to be completely effective.

Computer-Based Library Instruction

Based on that feedback, we are in the midst of two concurrent projects. First, we have changed the program to a 15-minute slide show concerning the choice and use of a periodical index, with the remaining 35 minutes devoted to an in-library exercise using library materials. Second, we are co-developing, with English faculty and an Instructional Designer, a computer-based lesson for W131. This computer lesson will be a part of a library skills package consistion of the lesson, an informational packet for W131 instructors discussing ways to integrate the lesson into their course, and a follow-up in-library exercise based on the computer lesson. We hope to implement this program in Fall 1988.

Now, with the benefit of hindsight, it seems clear that the process of delivering effective course-integrated library instruction began with the first initiatives of librarians to become a part of the learning environment of the university. After many starts and stops, we have continued to build a sense of partnership with the English faculty to provide basic library instruction. Even though each interation of the library instruction component causes new realizations of shortcomings, we can see progress over time. We are very optimistic about capitalizing on the relationship we are building with the English Department faculty in providing library instruction.

Course-Integrated Library Instruction: Earlham College Revisited

Marsha A. Miller,
Instruction Librarian,
Indiana State University Libraries

On March 14, 1988, I visited Earlham College, home of one of the most well-documented programs of course-integrated library instruction in the country. As one of four librarians visiting Earlham's Library that day, I met with Evan Farber, Director and originator of the instruction program, and Nancy Taylor and James Kennedy, reference librarians long involved with this course-integrated approach to library instruction. Mr. Farber's and others' remarks were taped at an informal round table discussion, where we were given an overview of the program and supporting handouts, and an afternoon session which consisted, in part, of an informal question-and-answer period. This article shares with *Indiana Libraries* readers the salient points of the day: **Farber (Evan Farber), Taylor (Nancy Taylor), Kennedy (James Kennedy), MM (author), Davis (Fran Davis,** Owensboro, Ky, Junior College), **and Moore (Joyce Moore,** Jefferson Community College, Louisville, KY). All remarks are verbatim unless edited for the purposes of clarification; edited areas are indicated with brackets.

From the Morning Round-Table Discussion

Farber: One of the premises we start off with is that students don't like libraries . . . because they don't feel comfortable. An article in *College and Research Libraries* on "Library anxiety",[1] reported on a study done at East Carolina University where students kept a journal of their library experiences; freshmen used such words as "scared", "uneasy", all kinds of things reflecting anxiety . . . when people feel anxious abut a situation, they avoid it . . . Certainly the territory is unfamiliar, and because they don't feel in control of it they avoid it. And they can avoid it, unless they're forced to use it. But even for those freshmen who like libraries or feel relatively comfortable because they've had good experiences, they don't know how to use it very well. They know how to use their own libraries, perhaps, that is, the high school libraries, but they come into a college library and they see the *Reader's Guide* and the card catalog, and they say, 'well, I know how to use these things, and that's all I need', and they never go beyond those. And they don't need to, in many cases, unless their assignments force them to do that kind of thing. Even here, students will still

use the card catalog and the *Reader's Guide* and go back to that high school syndrome.

Most faculty assignments do not make good use of the library; unless the faculty are educated to it, most assignments are trivial or unreasonable or confusing . . . or have [out-of-date or erroneous] bibliographies.

MM: The ever popular scavenger hunt. . .

Farber: Yes, where the faculty really think they're helping the library, 'we're making the students do things that are interesting' . . . It's often frustrating for students and really doesn't teach them anything except . . . well, I don't know what it teaches them, except that maybe they can only find things in the library by hit-or-miss.

So there are these various reasons that we think it's important to have a program that teaches students how to use the library that involves working with the faculty. Our program has a couple of basic thrusts to it. First, it's a course integrated program; that is, a program where we do not teach students to use the library outside of courses . . . we only work through courses that are already in place. One reason, not the best one, to be sure, but perhaps one of the most practical, is that politically it makes sense to do this. That is, the courses are already in place, you don't have to fight with the curriculum committee. The curriculum—if you want to look at it as a pie, everybody gets a piece of the pie, the English department, the science people. . . and if you're going to want a piece of that pie for the library, you're interested in taking somebody else's piece. So it becomes a political issue . . . fighting for some of the turf and that's not a very wise thing to do; not only unwise, sometimes it has no results because librarians don't have a lot of political power.

So politically it makes sense to work through the courses. But even if it weren't expedient to do this, probably educationally it makes sense . . . students are not interested in learning how to find information. You're not really interested in learning how to use a library until you need it . . . it's not inherently interesting. You have to create that interest by catching them through an assignment, or by piggy-backing it through an assignment. Those are the things students are interested in: getting better grades and saving time. If you can make learning how to use the library part of the assignment, then students will learn how to use it.

Major Aspects of Earlham's Program

Course-integration is a basic part of our program. It's either course-related or course-integrated. I use those terms, they're not quite synonymous. Course-related means the assignment has something to do with the course assignment; course-integrated means that the assignment really becomes built into the course and is actually an inherent part of the course. In either case, with students it's become an expectation that if they have any kind of library assignment, one of [the librarians] is going to come into the classroom, or they're going to come in here and we're going to teach them particular sources. Sometimes even without faculty members requesting it, the students will say 'when is the library going to do this?,' and even say to faculty at times, 'hey, we ought to go over to the library or have Nancy or Evan come over and talk to us.'

A real benefit [of a classroom session on library use], aside from teaching students how to use the

library, is that it makes the students feel as though the library and the librarians are really part of what they're here for. In other words, they're here to learn and the librarians are part of that program. We are another aspect of their education. I think it makes a difference in the way they view the library. [There is] a very different attitude here, than, I think, in most places. There is a rapport between us and the students.

Another aspect of our program is that it is a structured program. It begins right at the beginning of the students' [college] careers, before the students begin courses. In a sense, students' library skills parallel their development throughout their four years here. . . By and large, our students are very good at using the library and in some areas, particularly in biology and psychology, are really quite independent at tackling almost any topic in those areas.

The third aspect of the program is that it needs cooperation . . . cooperating with faculty members, in planning assignments, in implementing assignments, in all aspects of library work. Even planning courses sometimes, changing the way a course is structured.

MM: Do you get to do that?

Farber: Not often. In most cases, the faculty has an assignment in mind and will come in and talk about it. But there have been times when the nature of a course has changed. The political science American government class is the best example. The whole course is built around students, freshmen really, learning how to find and use government documents, and that course was planned with bibliographic instruction in mind.

Those are some of the characteristics of the program. I want to say this, also, keep in mind that this program has been going for more than 20 years. So it's a program [with which] we've had lots of experience . . . and opportunities to develop and perfect, particularly to perfect the organization

Let me backtrack a moment to say one thing about course-related instruction [being] preferable to other types of library instruction in its flexibility; we can take assignment; we can do it very quickly. Whereas with a workbook, for example, it's not that easy to change. When a new reference work comes out, we can immediately incorporate it into the new assignment. If the nature of the assignment changes we can adapt it to, say, a full class, an hour's lecture, or we can make it a ten-minute lecture. We can adapt it to beginning students or upperclass students, even within a class where there's a mixed group . . . We can adapt the assignment to meet the needs of all those students in a variety of ways, meeting part of them one time and meeting the whole class later on . . . It [course-related instruction] is much more flexible than any other kind of approach.

MM: Do you find that some of the new faculty coming in have already heard about this and are expecting and are willing to work with it?

Farber: When new faculty are interviewed here, almost always one of us or the science librarian serve as part of the interviewing situation, that is . . . they'll put us on the agenda. So they've already met one of us and know something about the program. In faculty orientations, when new faculty are all together before school begins, I always talk to them a little bit about the library.

Most of [the library instruction] takes place after their courses begin, that is, within the department. If someone comes in to teach psychology,

or biology, especially, they almost naturally will talk to their colleagues about some library component and then, after their courses are set and announced, one of us will get in touch with the faculty. [For example, in our contact we might begin with something like.] 'I see you're teaching 19th century literature this term; what are you planning to do in terms of the library?'

Taylor: Or, 'will there be some sort of research component,' something like that.

MM: Some people in our English department would be glad to hear from our library instruction office while others would ask, 'Why are you asking me about my course? This is my class'.

Farber: I would ask the question in another way, if you're expecting that kind of response. I would say, 'are you doing anything in terms of the library? As students going to be using the library at all?' I don't see how anyone could take offense at that. They'll say, 'yeah, why don't you put some books on reserve' probably. But once you get your foot in the door that way, then you can open it up a litle more and say; 'are they going to be using any library materials, are they going to be doing any papers or any kind of assignment, or doing any kind of research?'

Davis: Would you pick a faculty member who is willing to work with you and then let him be a salesman for you?

Farber: My general advice is to work on individuals, individuals you know who are open, innovative, who are not defensive, and for one reason or another, whom you feel comfortable in approaching. Some faculty who use the library a lot feel that if they know how to use the library, their students know how to use the library. And if their students need to know how to use it, they'll tell them. So it's really a matter of personality, openness.

Later on, the best way [to determine the need for contacting a faculty member], is feedback from the reference desk. That is, a student coming in and asking questions, because they have a demonstrated need. You can call your faculty member and say, 'Lat night some of your students came in' . . . you have to be careful because faculty members could take it very personally and immediately become defensive . . . but a faculty member who is really interested in teaching can recognize that their students are having a tough time and you can help. Another way is not to suggest, necessarily, a whole hour of library instruction. It may be, that the faculty member has the whole term laid out and doesn't want to give up a whole hour. 'Can I come in for just a few minutes and hand out some material and talk a little bit?'

The Library Use Quiz[3]

Farber: The Library Use Quiz [is] given during the orientation period. It's a very simple test, refined over the years. The assumption is that any student who has gone through a decent high school and been taught the library ought to be able to pass this test. When we talk to them later on in a class and say, 'you know how to use the *Reader's Guide*, don't you?', we want them to understand what we're comparing the current course content to (such as *Social Science Index*, etc.)

Ninety percent of our students pass this test . . . our entering classes are about 300, so about 30 students every year don't pass this test. [The test] is given to them on, say a Thursday afternoon; by Thursday evening we

have graded the test and identified those students who haven't passed. A note is put in their box the next day saying they haven't passed the test and that they should come into the library to get some instruction. [There is a set of "make-up" exercises to do then, often administered by student assistants.]

MM: This is totally optional?

Farber: . . . How many respond to that first note?

Kennedy: About half.

Farber: We follow up with maybe a second note, a note to their advisers, a note to every person who's taking the Humanities course, the Humanities instructors, a whole variety of things to get them to come in.

Kennedy: We also have our student assistants call them on the phone, and sometimes we just have to write them off . . .

Farber: This all happens before the term begins.

Humanities I[3]

Farber: We are in a quarter system. Humanities I, II, and III are the only courses that all students take. [The purpose is] to teach students to read intelligently, to write, and to discuss. They write very short reaction papers just using the text and correcting each other's papers. The students are reading about a book a week for 10 weeks and those books range widely in nature.

Halfway through the course is a week during which they're supposed to have no readings, and that is the week that we give them their library instruction. Now, this is the one class where what I said earlier doesn't pertain, when I said that all our instruction is course-related or course-integrated. This course has no specific library assignment. Students are not supposed to use secondary sources. But historically instructors of this course thought it important for students to be introduced to the library their first term here.

It was up to us to design a project that would introduce students to the library . . . [The Humanities I assignment is a booklet entitled, "Search Strategy and Reference Sources", and covers finding background information on a topic, using subject headings, finding bibliographies, using the Reference Keyword Index (discussed below) and the card catalog, finding reviews and using periodical indexes. On the cover of each booklet is attached a list of three topics with which to work through the different sections of the exercise booklet.] We choose about 30-40 topics, related in one way or another to something the students will have read.

Taylor: The topics are researched ahead of time by library staff so we know they'll be successful . . . we tried one year to have the instructors choose the topics; they chose topics which they thought were researchable, but were not. The idea is to have the students research the topics so they'll have success with them.

Farber: Nancy or I meet these classes and talk about the purpose of the assignment [which is] to teach them how to use the library, to save them time . . . our lecture consists of discussing each section of the exercise booklet, justifying why each of the sections is important.

The Keyword Index[2]

One of the most interesting discoveries at Earlham college was the library's Keyword Index, which lists almost everything in Reference. It is updated twice a year, but may soon be

updated every term. It's enormously helpful in updating the many bibliographies the Reference staff has developed. Farber almost never uses the card catalog for reference anymore. The Keyword Index was developed by Earlham's computer center from the reference shelflist. Listings are arranged by significant words in the reference sources' titles. It has been found by the reference staff and by library users that it is often easier to refer to the Keyword Index to identify reference books on a topic than to use the subject card catalog.

"Golden Treasures"[3]

The Reference Department maintains a collection of hundreds of research guides/bibliographies (humorously referred to as their "Golden Treasures", the color of the first page being gold); about seventy to ninety are revised or created each year, via a personal computer. As new reference materials are acquired, a citation is added to each pertinent bibliography so that preparing the new editions can be done quickly. These bibliographies include annotations to reference works, lists of related periodicals and available indexes, and, when appropriate, information on various CD-ROM indexes, e.g., *ERIC Silverplatter, Psychlit, Sociofile,* etc.

Questions and Answers in the Afternoon

The group viewed portions of video tapes from Earlham's BI Workshops, including one in which a professor from the Biology Department at Ohio State University discussed a course-integrated program created by him and Virginia Tiefel following their attendance at an Earlham workshop.

MM: How often do faculty come with the librarians to your various workshops? One of the things I'm always contending is that we librarians are always talking to librarians. We need to talk to the faculty.

Farber: That was one of the reasons we began our workshops. They were not just for librarians. We tried to make them attractive by offering reduced rates for faculty and we had a grant for several years to underwrite the expenses. In all of the workshops we've held, more than half of the audience has been faculty.

MM: I would say that the Ohio State professor came along with Virginia and then became inspired. Did she have an ulterior motive, thinking this would get him inspired?

Farber: Sure . . . it had repercussions way beyond what she initially expected. After they went back [to their schools], Virginia started having her own workshops. Several times a year she will invite perhaps fifty faculty members with whom she's not had much contact in the library and have three or four faculty members who have been converted testify to [the success of the program].

Our workshops are limited to about fifty, primarily because of the facilities, but we also have a chance to get to know each other in the day-and-a-half.

MM: In February, you had your Eckard College-Earlham College Workshop. Is that a regular event?

Farber: Every other year.

MM: Is there a particular theme to those conferences?

Farber: It's the same idea: bibliographic instruction, although at one we talked a lot more about CD-ROM's. We use faculty to talk about what they've done.

MM: Besides Ohio State, what other universities can you think of that have gone back and really gotten

converts to this course-integration approach?

Farber: The Univerity of Wiconsin-Parkside. . . a lot of places do a little bit . . . Bowling Green [State University] does . . .

Kennedy: UCLA?

Farber: Not much anymore . . . I know several smaller schools in California that do a fair amount.

Davis: Have you thought about any way of integrating computer-assisted instruction with this? Maybe as a reinforcement to what you've done.

Farber: I don't know of anybody that's really done very much. Years ago the University of Denver did some at a very elementary level but they don't do it anymore.

Taylor: Unless it's very sophisticated computer work, it's not going to measure up to a person being able to respond to a question in a class . . . at least when a human being comes to talk to you, you [can] then identify that human being the next time you walk into the library.

MM: When you go to the classes, do they immediately have to begin working on the different assignments?

Farber: It's often a problem . . . [we tell the instructors that the] instruction we've given is not going to be nearly as effective unless it's implemented almost immediately thereafter. Instructors don't really seem to take that seriously . . . the students, too often, don't begin their work right after instruction.

MM: I see each of your handouts has a place where the due date is entered. Do you set those due dates?

Farber: The faculty set them . . . [but] we set the Humanities due date for about 10 days after we give it to them.

MM: How many students are going to be working on those Humanities I assignments at the same time?

Farber: The sections are about 20 apiece and several sections may be due the same day, and certainly they're all due within a week to 10 days.

MM: Do you have enough of the topics so that no students are working on the same topics?

Taylor: No, they do work on the same topics, but they don't need to check out books; they just need to identify materials, so if you can just get things back on the reference shelf, it isn't a problem.

MM: Do you see students working together? Do you mind that?

Farber: No . . . it's not a very difficult assignment. We tell them it's going to take them only an hour or two hours to do it. They could do it themselves in the same amount of time it would take to find out who else is doing their topic.

Taylor: I frequently have people come up and ask if they can work on it together. I think it's great; they can talk about what they're doing.

MM: Jim, you've been here about as long as Evan has. How long have you been here, Nancy?

Taylor: Seven Years.

MM: Did you do this type of approach where you were before?

Taylor: I was at the University of Wisconsin, and we were in the School of Education, so we worked with a lot of graduate students and the beginning level education students.

MM: In higher level courses at Earlham, are there any library requirements where the students will be coming back to you?

Taylor: Oh yes, in a almost all of them. . .

MM: And do you find that most of the students have retained some of the information that they've gotten along the way?

Taylor: I think so.

Farber: Some; I keep saying that you can't expect them to remember individual works of reference . . . the most important thing is to change their attitude, and to get them to understand something about the nature of working with materials and particularly to feel comfortable about librarians, I mean, to feel good about asking for help. I think they do understand that there are indexes and abstracting services, there are certain kinds of reference works. . .

MM: Do you get students in on their own . . . who realize the value of what you are doing?

Farber: Not in every course, very few. In the American Government course Nancy mentioned earlier, the instructor is asked to put on his evaluation form something about the library assignment in the class. It's very "heavy" assignment; mostly freshmen are in the class, yet they've being taught to use CIS, the *Monthly Catalog*, all sorts of documents. A typical [student] response is, 'it was a heavy assignment, but I sure learned a lot'.

Taylor: That is a class where the assignment is so central. The professor doesn't lecture on the assignment except on the day we come to talk. The purpose of the assignment is to use primary documents to figure out what's going on in modern government; and it's on the final. That's probably our best example [of course-integrated library instruction].

Farber: The Chemistry Department's comprehensive final for senior chemistry majors has a bibliographic question as one of the three questions.

Taylor: The students go to the library to do research to answer the question . . . which is actually true, in a different way with a lot of our departments. All the Biology Senior Seminars include library research; almost all our senior seminars include research.

MM: One thing I've discovered at Indiana State University is that most of the pure research courses are at the graduate level, and by the time the student gets into their research course, they *should* have (but haven't) gotten all of this information long before. For example, sometimes they're at a 600-level course before they really start using *Psychological Abstracts*.

Taylor: That was true in Wisconsin all the time. Students would be working on a Ph. D. in Education and had never heard of *ERIC*. They literally had never needed any kind of research before.

MM: We've seen from some of the handouts this morning part of the answer to this question, but how has technology changed what you do? Some of your handouts i.e. including Silverplatter.

Farber: It really hasn't changed anything else; I think it will. It may change the nature of assignments.

MM: Do you plan on having more CD-ROM stations?

Farber: Definitely.

MM: Do you ever have any workshops for the students outside of their classes at all? Any kind of 'come in and tour around the library . . .'?

Farber: No, everything we do is strictly in terms of the classes.

MM: Do you have anything just for the faculty, where you get the faculty together?

Farber: Years ago we did that . . . on a Saturday, 10-15 years ago, we offered free lunch. About 30 faculty attended, 6 who were using instruction already and talked about it.

MM: Have you not done anything with that now that you've got the CD-ROM, for example?

Kennedy: I think of CD-ROM as being an extension of periodical indexes and online searching, so when we're meeting classes—psychology, education, and so on—we'll be giving demonstrations of CD-ROM.

MM: For students or faculty?

Kennedy: These are for classes, so if the faculty is present, as I assume they would be, then, yes.

Farber: We have talked about getting a projector.

MM: Yes, we use one for online catalog instruction and we can use it for database instruction. We have a Sony projection unit and now we have a liquid crystal display.

Farber: They're expensive.

MM: Cheaper than you'd think. The LCD is much cheaper than the Sony was when the Sony was bought, but the Sony was state-of-the-art then. The LCD, I think, was $1000, and it has some nice software, so we can download our screens.

Farber: How big is it?

MM: It looks like a thick clipboard which sets on top of a lower-than-standard wattage overhead projector; the lower wattage is necessary or your image gets hot during extended use and begins to fade away. However, many of the newest LCD models have built-in cooling fans reported to address the problem.

MM: Your freshmen quiz, do you have anything like that beyond the freshman year?

Farber: There's really no place to give it to them where we have them all together. The only other time they're all together is when they're taking the Humanities course and have no other library instruction for maybe a couple of years. You see what happens there, they come back in and it's like they've never been in a library before. And then there are students whose Humanities instruction is immediately followed up by two or three courses [that include instruction] that same term. That's one of the problems of this kind of instruction, is that there is no uniformity to it. It's a disadvantage in most ways, but it's never boring.

Concluding Thoughts

The course-integrated instruction program at Earlham is a good example of what can be accomplished in what one could describe as a laboratory atmosphere; twenty years ago Evan Farber and his colleagues began a program that continues to be a model. Academic libraries of all sizes need to continue to investigate the possibilities of increasing their work with faculty to achieve higher percentages of research-literate students. Farber has always emphasized that the Earlham program is not exportable in its entirety. But the underlying principles of communication with faculty, and of working closely with

them to make the instruction (and any subsequent library assignments) as meaningful as possible, are tenets which all instruction librarians need to consider in planning and implementing their various instructional programs.

Notes

[1]Mellon Constance A. "Library Anxiety: A Grounded Theory and Its Development." *College and Research Libraries* 47 (2): 106-65, March, 1986.

[2]Farber, Evan I. "A Keyword Index to the Reference Collection." *American Libraries* 18:440-1, June, 1987.

[3]Those interested in seeing examples of the Humanities I exercise booklet, the Library Use Quiz, or one of the "Golden Treasures", and for more information on the BI program at Earlham and workshops sponsored by the Library, can write to Evan Farber, Lilly Library, Earlham College, Indiana, 47374.

For Further Reading about the Earlham Program

- "Alternatives to the Term Paper: A Variety of Library-based Assignments Used at Earlham College" (unpublished paper), Lilly Library, Earlham College, 1986.
- Hart, James W. and Gwendolyn Stevens. *Can a Missouri State University Successfully Operate a course-Integrated bibliographic Instruction Program* ?, (ED 210024)
- Henning, Patricia A. and Mary E. Stillman, editors. *Integrating Library Instruction in the College Curriculum*. Philadelphia, Pa: Drexel University, Graduate School of Library Science, 1971 (ED 092150; reprint of article in *Drexel Library Quarterly* 7 (3/4), July & October, 1971)
- Kennedy, James R. et al. "Course-related Library Instruction; A Case Study of the English and Biology Departments at Earlham College." *Drexel Library Quarterly* 7 (3/4): 277-297, 1971.
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- Robinson, Dennis E. and Ernest C. Bolt, Jr. *Five-Year Report and Evaluation of the Library-Faculty Partnership Project: 1973-1978* . Virginia: Richmond University, [1980?] (ED 181865).
- Werking, Richard Hume. *The Library and the College: Some Programs of Library Instruction*, 1976 (ED 127917).

"Preparation for Undergraduate Bibliographic Instruction: A Personal Experience"

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Introduction

At some point in the education process, a student should develop an ability to use a library effectively. At least that is the hope of this librarian. This ability, hopefully, will be one that will transfer to lifelong learning in an information society. As an academic librarian, I encounter many students at various levels in their education process who do not possess adequate library skills, and an exceedingly large number of these students are college freshmen who do not know even the basics of using a library. Bibliographic instruction is one process librarians have established in an attempt to familiarize students with the physical layout and services of the library, and to introduce them to basic search strategies and information resources. Students need to be able to apply search strategies in their various coursework. An initial tour or a single instructional session is only the beginning for developing a student's library use skills.

Recently at Indiana University Purdue University at Indianapolis (IUPUI), a faculty member approached me prior to a scheduled orientation for her class. She had quizzed her students on their library use in order to give me an idea about their library backgrounds. Six of the students were college seniors; not one of them had ever set foot in our library during their four year at the institution! The professor was appalled that students could reach this level without ever using the library. This is not atypical of our students since many are commuters, and probably use their local library (at least, hopefully, they are using some library).

The term "library orientation" is not a new one. It has been used for many years to describe any attempt at teaching students how to use a library. For some instruction librarians it may mean simply walking a group through the library, pointing out various spots of interest, or resources. For others, it might mean an audio-cassette package that the students use on their own, or a printed self-guided tour. For others still, orientation activities might always take place in a classroom setting, either in the library itself or in an acdemic department classroom.

Background on Library Instruction at IUPUI

At IUPUI bibliographic instruction and orientations are provided in both the library and departmental classroom locations. The Library has its own classroom which accomodates 30

to 50 students. The room has the advantages of an overhead projector, screen, blackboard, and sample resources for use during instruction, e.g. indexes and abstracts. Since the instruction classroom is located within the Library, actual resources for which there are no samples can be brought to the room without difficulty. In the departmental classroom environment the instruction librarian must rely solely on lecture and/or printed handouts since the location is remote to the Library, often a frustrating arrangement. Therefore, the Library's classroom is preferable to a departments' classrooms.

Subject-specific/course-related bibliographic instruction at IUPUI is arranged between teaching faculty and a library liaison. Most sessions are at faculty request, although sessions have been arranged for groups of students at their request. The latter request is usually made when a specific course assignment is given which requires knowledge of using specific sources. Student-requested instruction sessions are set up at the convenience of the students (often during their lunch or free time).

Sessions arranged through teaching faculty are usually held in the library classroom during a normal class period and the instructor is usually present. This promotes "library awareness" and allows for an "on-site introduction" to actual resources and services of the library. Usually, only one session is scheduled for a given class. While one session is better than none at all, single session instruction severely limits how much information a student can reasonably absorb. For the new library user the session may produce an overload situation, while others in the class may find the information repetitious. It is truly difficult to meet the needs of everyone.

Scheduling and the Librarian/Faculty Interview

An important advantage of subject-specific library instruction is that it provides opportunities for establishing good library/faculty relations. In order to ultimately achieve an effective instructional experience, the librarian must establish contact and clear communication with the faculty member well in advance of the scheduled session.

Oftentimes, a professor requests a library instruction session because he recognizes a lack of "scholarly credibility" in the resources most frequently used by students, e. g. popular magazine over scholarly journals, general encyclopedias over specialized subject works, etc. When I am first approached by a faculty member to present a library orientation, I ask if the students are to complete an assignment in relation to the library instruction session and if there are specific resources that the professor would like to have presented to the class. Also, it helps me to know what resources the students might already be familiar with. Further, I ask if students will be picking their own topics or if they will be selecting one from a list of topics compiled by the professor. This information is helpful in terms of my determining which resources would be most appropriate for the instruction session. During our preliminary discussions, I also encourage faculty members who request a library instruction session to be present if at all possible during the session, since many times they will remember a particular source or point of interest during the actual session that they might have forgotten to mention during the initial scheduling interview.

Another advantage of subject-specific instruction is that students

establish a contact within the library. Many times after such sessions, students will specifically request the librarian who taught their class, even thought the reference librarian available is perfectly capable of assisting the student.

One question that I have been asked by both faculty and students is "Don't you ever get bored teaching the same thing over and over?" My reply is that each class is totally different. Questions and responses vary as greatly as do the students, and I usually learn something new with each session I teach. For example, I might learn not to use a specific term or technique, if later I discover that it only confused the students.

Usually, bibliographic instruction is requested by faculty who are teaching entry-level courses in particular departments. My subject liaison responsibilitie at IUPUI are to the School of Social Work and School of Public and Environmental Affairs (SPEA). However, I also assist in bibliographic instruction on a volunteer basis for other general subject areas such as communications and writing and guided studies. Each session is unique and I approach each one according to the faculty member's specific request and the students' library use background, if such information about their prior use of libraries is available. Receiving some class background beforehand can be most useful in your presentation. That is one of the reasons I find the initial interview with the faculty most important. It gives the librarian an opportunity to learn basic information about the class and the material the faculty member feels needs to be stressed.

Selecting Appropriate Strategies and Materials

Preparation for the class instruction begins as soon after the interview with the professor as possible. I find that important information about the group is best remembered if I sit down immediately following the interview and list background information on the students, resources that the professor wants stressed, topics that will need to be covered, and other resources which might also be useful. Next, I determine what handouts (if any) would be appropriate for the session. If the students have little or no previous library experience, I usually provide a one-sheet handout which includes a layout of the library; library hours and lending rules; a brief outline of Library of Congress Classification; and my name, room number, and telephone number at the bottom. If the session is for an introductory course, I distribute a brief bibliogrphy which includes a selected listing of dictionaries and encyclopedias related to the subject, basic reference items, specific indexing tools, and selected major periodicals related to the course subject. This bibliography gives them a start when they later return to the library to begin work on their assignment. I also discuss each of the bibliography's sources during the session and try to have them available at the session so the student see what they actually look like. When presenting sources such as *Sociological Abstracts* or *Social Science Citation Index* , I usually have a handout with examples of citations for each to clarify abbreviations or terms used within a citation.

If students' topics are known beforehand, I try to present reference materials that will cover as many of the topics as possible. I also present various indexes that will aid in finding

current and/or scholarly articles on the topic. I have found in the social work classes that the professors stress scholarly journals most often. In almost every presentation, I at least introduce government publications as an important collection. There is a wealth of information in these documents and many times faculty members and students either forget about their usefulness or are unaware of their value altogether. Our computerized INFOTRAC system makes locating government documents by subject much easier than manual searching of the print index sources for government publications.

One of the most important things I try to remember through out a session is that I want to make students feel at ease in the library. This is not always easy and may seem unimportant to some readers, but I have found that many students (of all ages) are hesitant to admit that they do not know how to use the library. They can be made to realize that while all libraries have certain things in common, each individual library is slightly different. Everyone needs to learn how to use the specific library in his or her particular environment. Not long ago, I asked one of the speech classes I had oriented to evaluate my presentation. One of the students remarked that she did not feel as intimidated after I had admitted that I had to learn about the IUPUI Library when I came here as a librarian, even though I had been working in libraries all of my life. Humans, by nature, do not like to admit to fault, and college students are certainly no exception. If they can associate using the Library with a successful experience, they will be more apt to use it again.

Conducting the Session

When I actually begin a session I introduce myself and give a brief account of my background with the Library. I then try to determine which students are current users of the Library and which are using it for the first time. I also encourage their questions at any time during the session. During a presentation I might use the blackboard and overhead to emphasize points being discussed or present examples for sources. I also try to include some hands-on use of the sources being discussed, for example indexes. I might ask the students to determine the subject to check in the index. Even though they are all using different index samples, many of the subjects I use as examples will be covered in all of them. I try to have them participate as much as possible by getting them to suggest index topics as examples. This seems to give greater meaning to the instruction since the students can relate to exercises in something they are interested in.

At the end of the session, I ask for any questions they may have, or if they feel unsure of any of the tools presented. Time permitting, I take them on a walk-through of the Library. This will help them locate different resources and services when they later return on their own. I usually end a session by encouraging students to come to me for specific help with their topics if they like, and I give them my office hours.

In Conclusion

Establishing good rapport with students may help in their continued use of the library. Not all sessions are successful and some students tune out as soon as I have started. However, I hope that some will leave the library instruction session with a little more confidence in their ability to use the library than when they walked in the door. One of the mose gratifying experiences is to have a student

return to the library and say, "Thanks for the orientation. It really helped me and I'll be back for more help." I find that these students usually do come back, again and again. And I feel that if I have made even one student a better user of the library, then my efforts have been worthwhile.

The Purdue Undergraduate Library Research Skills Instruction Program

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Introduction

Undergraduate students arrive at a research-oriented university or college with varying levels of experience and ability in using libraries. The Purdue Undergraduate Library has designed a library instruction program to teach large numbers of undergraduates the essential library research skills needed for completing higher education programs and for lifelong learning. The objectives of the program are to instill a sense of the value of information utilization in an academic and career environment to all students without putting undue demands on limited library personnel resources responsible for the delivery of requested services.

In meeting these objectives, the Undergraduate Library Research Skills Instruction Program has developed several options and components affording self-paced, on-demand interactive assistance from independent study instruction modules and/or library reference assistance. Students can obtain information on how to conduct library research logically and efficiently from a basic self-guided audiocassette tour of the Undergraduate library facility, a comprehensive Research Skills Instruction printed guide, online catalog/index and periodical literature micro-computer-assisted tutorials, classroom presentations, and individual assistance at the Reference Desk. These alternative approaches allow students and faculty to address their information instruction requirements depending on personal interest and motivation, course outline, and time constraints. In this respect, library personnel have flexibility in effectively meeting the heavy demands for service while maintaining necessary management duties and responsibilities.

Program Rationale

The Purdue Undergraduate Library opened in May 1982 with a specific mission to meet the curricular and general interest information and research needs of undergraduate students on the Purdue University campus. The subsequent operational goals and objectives for the Undergraduate Library are based on the premises outlined in "The mission of an university undergraduate library: Model statement" prepared by the ACRL Undergraduate Librarians Discussion Group and the Steering Committee of the University Libraries Section.[1] The development and implementation of all supporting resources and services offered in the Undergraduate Library have reflected

a general appreciation of those factors considered to be most influential in providing a rewarding academic and personal experience for those lower-division undergraduates the library is intended to serve. In this respect, the nature of the large university environment, the specific needs of undergraduates, and the types of staff and services required to effectively meet those needs have been regarded carefully.

The Purdue Undergraduate Library Research Skills Instruction Program exists as a response to the basic mission of the Undergraduate Library and the perceived immediate and long-range information literacy skills necessary for students and professionals in what has been regarded as the Information Age. This program accepts that within the large university research-oriented setting, there are significant numbers of undergraduates with varying levels of experience and ability in using libraries. The program's specific objectives and goals are based on the presumption that:

1. Most first-year students are unaware of the greater part of bibliographic sources available to them and do not yet have the sophisticated research skills needed to effectively utilize the research library's potential.

2. Some students are intimidated by the complexity and size of a large library system and may be reluctant to ask for assistance.

3. The library is a highly complicated system of print and non-print information. User instruction is needed for the student to locate pertinent material(s).

The Undergraduate Library Research Skills Program is a student and instructor end user-oriented program of instruction. It is designed to enhance student research through integration of effective research methodologies and basic skills essential for retrieval and critical analysis of information. The basic objective of the program is not only to provide students with the specific skills needed to successfully complete assignments, but also to prepare individuals to make effective lifelong use of information, information sources, and information systems.

Program Objectives

The program has identified four areas for which terminal objectives have been determined. Briefly, the four major areas and objectives are:

1. Information Identification and Definition: The student understands how information is identified and defined by experts, and utilizes that understanding to determine the direction of his/her research.

2. Information Structure: The student is able to identify the substantive and bibliographic structure, function, and use of information sources.

3. Information Intellectually Accessed: The student can locate the most appropriate information for his/her needs using a selection of information sources or systems.

4. Information Physically Organized and Accessed: The student is able to identify the way collections of information sources are physically organized and accessed.

Instructional objectives within these four major areas are presently supported through library-directed application of the various components of the Library Research Skills Program package. These components consist of the *Undergraduate Library Research Guide*, a self-guided audio-

tour of the Undergraduate Library, class and Independent Study Center presentations utilizing microcomputer tutorials, and individual assistance at the Reference/Information Desk. In the Spring 1988 semester, an instructor's guide for the program will be incorporated to outline for their use the most effective methodology to integrate the program's components depending on their specific instructional/course objectives.

Instructional Components

Research Guide

Beginning in the Fall of 1985, all English 102/Freshman Composition students were required to purchase the *Undergraduate Library Research Guide*. The guide presents a systematic search strategy applicable for any type of library research or information need. It encourages students to articulate their needs, define their topic, and determine the type of information (general, in-depth, specific) they need. The guide not only assists the students, but also provides accurate library information for the teaching assistants to refer to when teaching the process for writing a research paper.

Audio-Tour

The audio-tour component of the program package provides a general overview of what services and resources are available in the Undergraduate Library and where they are located. This aspect of the program allows students to obtain a floor plan map of the facility to which they can record a numbered location corresponding to information obtained in the taped walking tour. As an alternative to conducting large group tours of the building, this methodology provides a feedback mechanism to the instructor to show that students have familiarized themselves with the facility. This approach has proved useful in reducing the amount of time previously expended by library staff in conducting tours, minimized disruption for other students using the building, and allowed instructors another hour of classroom instruction they would have used by taking a tour. Students can use their own or library-provided Walkman-type players at a time of their choice.

Microcomputer Tutorials

The program's microcomputer tutorials are offered as another means for instructors to gain needed classroom instruction time, but still provide necessary instruction on specific library tools. The microcomputer-assisted tutorials are available to students through the services provided in the Undergraduate Library's Independent Study Center. These tutorials can be utilized by students at any time the center is open and are intended to provide a hands-on training experience in periodical index procedures, and the use of the automated online books and media catalog. These tutorials are designed to allow students to work at their own pace and at their time of need. The content presented in the tutorials relate to material in the *Research Guide*. The *Research Guide* has several tear-out pages corresponding to questions and information presented in the tutorials which can be completed and returned to the instructor as evidence of students' interaction with these programs. In addition, the online catalog tutorial is a simulation of the Undergraduate Library Books and Media Catalog affording instruction on this resource without frustrating other students familiar with search procedures who require access to limited public online terminals.

Reference Service

The Library Research Skills In-

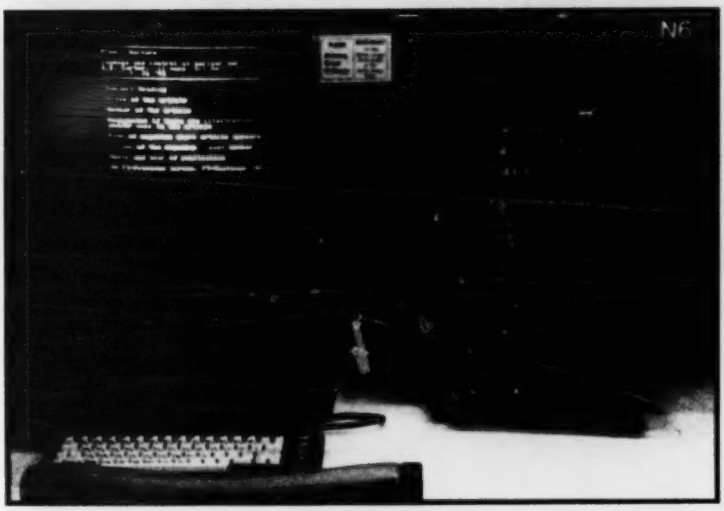

Figure 1. Microcomputer tutorial workstation in the Undergraduate Library's Independent Study Center.

struction Program is further complemented through the availability of individualized assistance offered at the Reference/Information Desk. This service is provided 78 hours a week and it is here that students may receive clarification of a point in the *Research Guide*, additional information about a specific source or the library system in general, or guidance in what their next step in finding information should be.

Classroom Presentations

The librarians in the Undergraduate Library will provide extended in-class presentations at the request of instructors. However, with the incorporation and use of the Library Research Skills Instruction Program, these classroom presentations are now reserved for those classes that have utilized the program's basic instruction components and now require more advanced presentations in specialized research areas.

The Purdue Undergraduate Library Research Skills Instruction Program operates on the fundamental principle that for a student to know how to learn about information within any discipline, he/she must have a process or framework from which to start. Information-seeking skills provide an advantage which not only impacts on the student's professional training, but provides a competitive edge for future success in the career of his/her choice. The ability to efficiently access, critically analyze, incorporate, and effectively utilize information is a skill with life-long implications. In this, the information age, knowing how to learn is an important element of any higher education curriculum. In terms of information, this program is intended to instill in students a sense that you are only as good as what you work with—the product and process of your efforts are indeed interrelated.

Program Effectiveness

Since the program was introduced in 1984, there have been significant, measurable effects on the overall quality of student research products and library operational objectives. The evidence of the program's impact on student learning has been highlighted through feedback from instructors and students. Comments by English 102 instructors (Appendix I) and students on program evaluation forms sent each semester indicate that

Figure 2.
Screen display example from online catalog simulation microcomputer tutorial.

Figure 3.
Screen display example of online catalog simulation tutorial describing the parts of a book/ document record.

the program has succeeded with some of its goals. Regarding the goals of the program to reduce the students' anxiety and/or frustration in using a large library system and making them aware of how to obtain help when they need it, instructors have commented that:

- the *Research Guide* " . . . helps to make the library familiar to students and provides them an edge when starting their research projects."

- the microcomputer tutorials " . . . are an immense help to the students. Many were totally unfamiliar with the library; the information presented more than gave them the start they needed."

Students have also responded favorably to the objectives and design of the program. There is evidence in the literature regarding the delivery of basic library orientation presentations that students frequently view this instruction as unnecessary, and of little immediate use unless it is received in conjunction with a specific

assignment. The Library Research Skills Instruction Program is specifically intended to circumvent this perception by allowing student alternative, point-of-need library instruction options. Since 1985, approximately 3,800 English 102 students have received their instruction on basic library research using the various components of the program. The program evaluation forms (Appendix II) returned by these students indicated they preferred the instruction component options over the traditional library orientation lecture. In addition, ongoing revisions to the program have increased the student's perception regarding the overall helpfulness of the program's content. During the Summer of 1986, major revisions were made in the microcomputer tutorials to include more hands-on activities. The *Research Guide* was also modified and revised to reflect these changes. Student response to these revisions was positive. In the Spring 1986 semester, 67% of student respondents indicated they preferred the program component options over the traditional library orientation lecture. In the Fall 1986 semester, this figure increased to 72%. The student evaluations also revealed that 52% of the students in the Spring 1986 semester rated the *Research Guide* on the high end of the five-point Likert scale for helpfulness in using the library and/or writing their papers. In the Fall 1986 semester, the figure increased to 65%. Another question on the evaluation form asked how helpful the program was overall. Sixty-one percent of the students in the Spring 1986 semester rated it as helpful, while 72% gave the same rating in the Fall 1986 semester. The audio-tour, evaluated separately, was rated as helpful by 88% of its users. During the last three semesters, statistics kept at the Reference/Information Desk have shown an increase in the number and type of questions asked, particularly during the concentrated periods of instruction (Fall 1986, 21% increase from previous year; Spring 1987, 34% increase from previous year). This evidence suggests that students have found the program to be helpful, know where they can receive assistance, and are capable of making more effective use of the library and their time spent in doing library research. (See Figure 4.)

The impact of the Research Skills Instruction Program on the operational objectives of the Undergraduate Library has also been positive. Utilizing several approaches (self-guided tour, printed *Research Guide*, classroom and Independent Study Center instruction using computer-assisted instruction tutorials, and individualized help at the Reference/Information Desk) provides the necessary flexibility for the limited number of library teaching faculty to interact with the large undergraduate enrollment. When the program was first implemented, library faculty directed students' interaction with the microcomputer tutorials in a classroom setting. In this respect, English 102 classes were conducted in the Undergraduate Library's instruction room. The students in each class were assigned to smaller group computer work stations, approximately 4 to each station, and directed to work through the tutorials during the allotted class time. Librarians maintained minimal interaction except to answer questions and ensure completion of assignments by the end of the class period. This approach was taken at the program's inception to obtain needed feedback regarding changes to the tutorials which might be necessary for the intended independent study-based delivery of this program component. In one month, three librarians were able to instruct approximately 1500 students in this situation, and still maintain other duties and responsi-

Question: The instruction session was
Overall Effectiveness
A very helpful
B
C
D
E not helpful
High = A + B
Med = C
Low = D + E
Student Responses (%)
100
75
50
25
61
27
11
72
20
5
High
Med
Low
High
Med
Low
Spring '86
Fall '86

Figure 4.

bilities. In addition, the librarians involved in this approach to instruction indicated a much lower sense of what is commonly called "burnout" based on previous situations where the same number of students were provided a personalized, stand-up lecture during the same amount of time. This level of instruction activity was maintained over two full academic years utilizing microcomputer equipment originally purchased with approximately $7,500 of building construction/equipment money.

After this initial period of development, experimentation, evaluation, and revision of this aspect of program components, the equipment and supporting hardware were moved to the Undergraduate Library's Independent Study Center for use and review by students at any time throughout each semester. This experience proved there was cost-effective methodology whereby students could obtain useful instruction in basic research skills in a non-personnel-intensive way, freeing librarians to develop more subject-specific, advanced materials to expand the instruction program.

Future Applications

The design and nature of the Undergraduate Library Research Skills instruction Program affords potential for application in other disciplines. Since the program concentrates on a process rather than specific library sources, there is a high rate of transferability from the learning situation to other applications. In this respect, the program package is multidisciplinary in scope. A student with a fundamental understanding of the nature and use of information retrieval systems can readily adapt this skill for investigation of available literature in any discipline.

The experience acquired from the delivery of this program suggests that future program development address all potential user groups of academic libraries, not just the concerns of undergraduates. To this end, there is no homogeneous group of "undergraduates," but rather there exists a diverse student body whose members operate on a continuum of research sophistication. As the student body/audience is probably similar in all academic libraries, complete instructional packages could be appropriately developed for use in other unversity library systems.

In the future, the Undergraduate Library's Research Skills Instruction Program will expand to courses beyond the introductory, heavily-enrolled survey courses now served in this manner. More instructional packages for microcomputers will be developed, particularly as the use of computer online catalogs and the commercial database search services expands. Eventually, the Purdue Undergraduate Library will be organized to allow more point-of-use, on-demand instructional stations to serve the high volume of requests for research tutorial assistance when professional assistance is not available. In any event, it is hoped that this type of instructional option will afford the professional librarian the latitude to provide extended, specialized, and consultative service at the time it is most needed.

Notes

[1]"The mission of a university undergraduate library: Model statement," Prepared by the ACRL Undergraduate Librarians Discussion Group and the University Libraries Section Steering Committee, *C&RL News*, v.48, no. 9, October 1987, pp. 542-544.

Appendix I.

INSTRUCTOR'S EVALUATION FORM

Name (Optional): _____

1. How do you feel about the way in which the Undergraduate Research Skills Program was presented?

   Please comment on the —

   serials tutorial

   online catalog presentation

   audio-tour

2. To what extent do you think the instruction aided students in doing their papers/projects?

3. Was the information presented relevant to your class needs?

   Was there information missing? (please explain)

   Was there information included that was not needed? (please explain)

4. Did you find that your students had difficulty understanding the information presented in this program? If so, what were the difficulties?

5. Did your students have difficulty accessing the tutorials in the Independent Study Center? Yes No If yes, please explain.

6. Did you require your students to take the UGRL audio tour?

   yes no

   If yes, did you have your students complete the audio tour checklist?

   yes no

7. If you used the audio tour checklist, please comment on its effectiveness in acquainting students with the library.

8. Please comment on the *Undergraduate Library Research Guide*

   What are the strongest features of the *Guide*?

   Are there items/areas missing from the *Guide*? If so, please explain.

   To what extent do you feel that the *Guide* has aided your students in doing their projects/papers?

9. How would you describe your own familiarity with the Purdue Library System? (please circle one answer)

   very familiar somewhat familiar not familiar

10. How much library research do you generally do in a semester?

Appendix II.

LIBRARY INSTRUCTION EVALUATION

The Undergraduate Librarians would appreciate receiving your comments on the Undergraduate Library Research Skills Program in general and specifically the tutorial programs in the Independent Study Center. If you did not use all the materials we would appreciate your thoughts on the overall program.

Please read the following questions and blacken the appropriate letter on your answer sheet. Read all questions carefully and choose the answer that most nearly reflects your opinion. Use a number 2 pencil. You may write additional comments on the back of the answer sheet.

SERIALS TUTORIAL

1. Information presented in the serials tutorial was —

A	B	C	D	E
easy to understand				difficult to understand

2. Directions given on the TUTORIAL were —

A	B	C	D	E
easy to understand				difficult to understand

3. Wording on the TUTORIAL was —

A	B	C	D	E
easy to understand				difficult to understand

4. To what extend did the tutorial help you to understand how to use *Reader's Guide*/periodical indexes?

A	B	C	D	E
great help				no help

5. To what extent did the tutorial help you to understand how to use the Union Serials Microfiche Catalog?

A	B	C	D	E
great help				no help

UGRL ONLINE CATALOG:

6. Information presented in the online catalog tutorial was

A	B	C	D	E
easy to understand				difficult to understand

7. To wahat extent did the tutorial help you to understand how to use the online catalog?

A	B	C	D	E
great help				no help

OVERALL:

8. The amount of information covered was reasonable --

A	B	C	D	E
strongly agree				strongly disagree

9. The programs were --

A	B	C	D	E
very helpful				not helpful

10. The practical application of the subject matter is --

A	B	C	D	E
very apparent			not apparent	

11. How knowledgeable were you of library use/research strategies begore using the Undergraduate Library Skills Research Program?

A	B	C	D	E
very knowledgeable				not knowledgeable

12. To what extent was the *Undergraduate Library Research Guide* helpful in using the library/writing your research paper?

A	B	C	D	E
great help				no help

GENERAL INFORMATION

13. What general are does your major come under?

A	B	C	D	E
humanities/social sci	science	technology	engineering	undecided

14. Year in school --

A	B	C	D	E
freshman	sophomore	junior	senior	other

A Statement of Opinion

Working Under Cover to Promote OPAC

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With apologies to any whose job title is bibliographic instructor, I would rather be forced to watch reruns of *Lost in Space* than to admit involvement in anything called bibliographic instruction. Sure BI is a noble pursuit, ranking right up there with flossing regularly or saving the whales. However, I would rather it be called something a little less stuffy, like "teaching library skills".

Our OPAC: In the Beginning

Once upon a time, prior to 1982, the Indianapolis-Marion County Public Library had a card catalog. It was a big catalog for a big library with a big name, and take my word for it, it was a big mess. As the graph in Figure I shows, the larger an object, the messier it is, which I'm sure you'll all remember from library school as "Cutter's Law of Utter Clutter." The labor involved in catalog maintenance for 22 branches and Central Library's three catalog sets was truly Brobdingnagian. Despite the hard work of our Cataloging staff, our card catalog had become very out of date. Successive generations of subject authority and cataloging rules contributed to the chaos, as did the huge number of books which had been missing from the library for years, and for all we knew were no longer in the Western Hemisphere. There was also no easy way to tell if a book was checked out or to see if one of our branches owned it.

In the early 1980's the online public access catalog (OPAC) was beginning to come into its own. Whereas before that time computerized catalogs were little more than online circulation systems, newer second generation systems offered many refinements. The catalog we eventually purchased from CL Systems has author, title, and subject access, shelf list, online help screens, full bibliographic records, branch holdings, shelf status, and online reserves. Patron and circulation records are handled online as well. We are eagerly awaiting the imminent arrival of the third generation OPAC, expected to offer keyword searching, boolean searching, better authority control, and probably a built-in wet bar besides.

The CLSI system is a so-called turney system, the theory being that, like a car, you simply turn the key and drive it off the showroom floor; but in practice it's more nearly the equivalent of winning the Space Shuttle on a trip to Epcot Center, and being told you have to fly it back to Indiana. The very difficult process of converting from cards to computers was ably

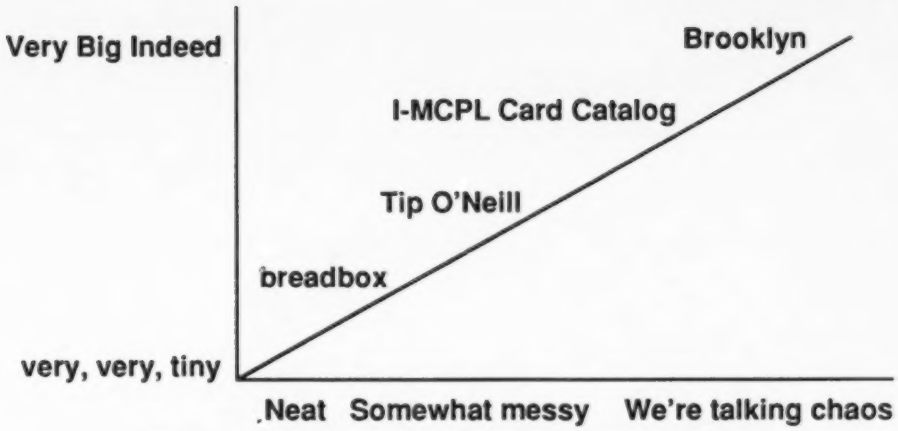

Figure 1. Illustration of "Cutter's Law of Utter Clutter."

accomplished by our technical services staff in a protracted effort reminiscent of the siege of Leningrad. While I haven't the space or background to relate that story, for those of you well versed in hardware, software, and presumably underwear, I offer these tidbits:

1. Eighty-five public access terminals (12 keyboard. 73 touch sensitive), 56 circulation terminals, 14 reference terminals and 17 technical support terminals were installed at 24 locations.

2. Our mini-computers are by DEC, our drives are from Control Data, and our terminals are from Interactive Systems, Inc.

3. Online storage capacity is 7 gigabytes (7 billion characters).

When the terminals were first put in use we received a reasonable amount of attention from the local media. The publicity was certainly more positive than that accorded the Ayatollah Khomeini, but I think it would be fair to say that the new catalog was viewed with a certain amount of skepticism by the Fourth Estate. It was just about this time (1982) that we reference librarians realized that there were over 700,000 Indianapolis residents who knew less about the new catalog than the average schoolchild knows about the Laplace Transformations (for that matter I don't know anything about the Laplace Transformations either, but I assume several people besides Mr. Laplace know what they are).

We had a short period of grace when we had both the card catalog and the computer catalog. Finally though the time came when the card catalog, which was "frozen," became so out of date that we simply threw it out. Patron reaction to the passing of the card catalog ran all the way from elated to homicidal. Some people viewed the passing of the card catalog as one might the death of a loved one or the cancellation of *60 Minutes*. One guy I knew likes to think the old catalogs are safely hidden in steam tunnels beneath the Central Library, wrapped in Visqueen and guarded by feral alligators. Mostly though, people demonstrated a cautious acceptance, coupled with a willingness to learn something new.

What about Instruction?

As educators are fond of telling us different people learn best in very different ways, and at a varying rate.

The amount of practice, the kind of instruction and the degree of personal attention needed differs for each of us. Some people like to plunge right in and try their hand at something without much real preparation. These are the type of people who try to dry their socks in the microwave or pop popcorn with a hair dryer. Others of us are far more methodical, the kind of people who would actually read the directions on shampoo befor using it (Wet hair. Lather. Rinse. Repeat).

Well, in theory it's a fine and very American thing to recognize that each of us has a unique method of learning (I prefer to be taught by statuesque Amazons), but in practice, time, material, and personnel limit the kinds of instruction that can be offered. Nevertheless within those limits, we decided to offer a variety of ways people might learn about the computer catalog including:

1. Online help screens.
2. Written instructions at each terminal.
3. Instructional articles in *Reading in Indianapolis*, the I-MCPL newsletter.
4. One-on-one instruction.
5. Formal classes.

Online Help Screens

Online help screens come with the CL Systems software, involving no real work on our part, and are somewhat helpful to a limited number of patrons. You'd be surprised though, at the number of people who thought the "Help" light worked like a nurse call light in a hospital. They expected that when it was pressed, a librarian would come over, perhaps responding via a CL Systems brain implant.

Handout

We also developed a nice tri-fold handout (see Figure 2) of the type libraries are so fond of producing, and which patrons like to use as bookmarks and scratch paper. This too was quite helpful to a significant number of people, but has the basic limitation of all written instructions; if you provide enough detail, no one wants to read it, and if you make it too short, critical facts are missing. Unfortunately these categories overlap.

Articles

Two articles on the new computer catalog were published in the library newsletter and served to publicize the system and ease the transition from the card catalog ("PAC Terminals are a Soft Touch" *Reading in Indianapolis* Feb. 15-28, 1985; and "The Sex Life of Computers/Update", *Reading in Indianapolis* November. 15-30, 1986). Both contained a palatable amount of instructions for using the terminals, and although the effect of any newsletter is indeterminate, copies were sent to 15,000 subscribers.

One-On-One

Probably the best way for most patrons to learn is by one-on-one instruction from the librarian or clerk. When we first got the catalog, we spent many, many hours honing our demo skills ("Here it is the latest in computer catalogs from Ronco; it slices, it dices, it chops, it grinds, and it's dishwasher safe"). Eventually enough people learned so that the time we devote to this was substantlally reduced, but will probably drop no lower.

Instructional Classes

A number of our patrons began to voice some interest in signing up for classes on using the catalog. This was perfectly agreeable to us, except that we did not yet offer such a class (actually several of our more adventurous branches began offering classes

on their own, but nothing had been organized systemwide). To remedy that situation Catherine Gibson, our Adult Services Coordinator, enlisted the help of Barbara Felton, Head of the Warren Branch Library, and myself. Our goal was to design a "packaged" (turnkey?) presentation which could be used in whole or in part by any of our 22 branches or at the Central Library.

We eventually decided such a class would consist of:

1. A brief lecture touching on the history of catalogs (books, card, Sears, J.C. Penney), ending in a description of the online catalog.
2. A slide show.
3. Supervised practice.
4. Refreshments (teaching library skills whets the appetites of both perpetrator and victim).
5. Evaluation. This provides us with feedback to improve the class (although people tend not to be too critical when you have given them doughnuts).

As I'm sure you can appreciate, nothing thrills people more than to sit down and listen to a long lecture on the history of library catalogs, capped by a windy explanation of the relative technical merits of card catalogs versus the OPAC. With that in mind we designed the lecture part of the program to be quite brief. Over time, that part of the class has been pared down more than Elizabeth Taylor's waistline.

Slides

For the slide program we wanted to have a few introductory slides: pictures of the library, shots of people using the terminal, and so on. Mostly though we wanted to have slides that actually showed the screens on our touch terminals at various stages during a search (see Figure 3). This would allow us to run through the stages in a typical search. I volunteered to do this since it would allow me to look cool carrying around a lot of cameras, lenses and so forth. I had taken a course in photography so I could toss around words like f-stop and aperture, although I had only the vaguest notion of their meaning. Taking pictures of the library and people working at the catalogs was simple enough and offered me plenty of chances to look like David Kennerly. Photographing a CRT screen using only the light cast by the display proved a lot tougher than I thought it would be. Fortunately the spouse of one of our librarians is a professional photographer, who had some experience with CRT shots, and he shared his expertise. After much practice the best results were obtained using a 205 mm lens, and Ektachrome 200 slide film. The camera was mounted on a tripod 75 inches from the center of the screen with the f-stop at 5.6, and the shutter speed at one-half second.

Dress Rehearsal

After a couple of months of preparation we presented our program to a jury of our peers consisting of about thirty librarians from various branches. They made a number of useful suggestions including:

1. Have some introductory slides taken at the branch where the class is being taught.
2. Add slides for cross reference examples.
3. Provide more time for questions and practice, less for slides and lectures.
4. Have a wider variety of baked goods.

Properly chastied, we revised our package and had the text copied, and the slides duplicated. Eight sets were

made so that the class could be offered at Central Library and our seven largest branches. To begin with classes were offered twice a week at Central, and roughly the same at the branches depending on the demand. Class size has varied from two to twenty.

These days since many more of our patrons already know how to use the computer when they come into the library, the demand for classes has dropped somewhat. Nevertheless there are still several times each day I see persons standing in front of a terminal with a blank look on their face as though they expect the screen to begin playing reruns of old sitcoms. . . unlikely any time soon.

We had to add some new slides a couple of years ago when we first introduced keyboard terminals to the public, but those changes are nothing compared to the adjustments we'll have to make as later generations of the OPAC are introduced. Given the choice between teaching boolean searching to a superannuated bibliophile and undergoing a root canal, I think I'd reach for the novocaine.

But Seriously Folks . . .

Certainly the conversion to a fully automated online catalog was a major move for the Indianapolis-Marion County Public Library. While the reference librarians were more or less bystanders to the conversion process, we were thoroughly involved in training the public. Our experience with training patrons to use the computer catalog has taught us that there is no match for one-on-one personalized instruction. Nevertheless, a significant percentage of the population benefits from articles, handouts, and of course formal classroom instruction. Such formal training is best kept short and sweet. Time spent by the librarian as a "talking head" should be kept to a minimum, and plenty of relaxed time should be provided at the end of the training for the attendees to have supervised practice on the OPAC.

In the not too distant future we may add another instructional method, that of videotape. With a VCR and a television near the catalog patrons could view a detailed instruction whenever they wish. Such a video cassettee could also be circulated, although it probably wouldn't be much competition for Star Wars.

Whatever the future holds in the way of technological advances in online catalogs, the reference librarian will likely play an integral part in the public's use and acceptance of the catalog.

Figure 2. I-MCPL brochure (on the next three pages, with panels in sequence, two at a time)

INFORMATION AT A TOUCH

THE TOUCH TERMINAL at your

Indianapolis-Marion County Public Libraries

The new catalog is similar to the old card catalog. It's still a list of the books and records owned by the library. But, yesterday's catalog was on cards; today's is on-line with a computer.

Unlike the old catalog, this one greets you. If it doesn't, touch the part that says "START OVER" You will then see:

You can look through the catalog by author, title, subject, series, or call number. The following example will show you how to do it.

If you want to look for an author, you touch (yes, touch) the word "AUTHOR" The screen then displays a few lines like this:

You see an instructional statement and an author's name. You don't happen to want that author. Let's say you want to look for the books by Jacob Bronowski. Since Bronowski is not shown on the screen, touch the name that comes before it. That is, touch the instructional statement. You will be shown a second screen...

Still no Bronowski. Again, touch the name that comes before it, in this case Berke. Continue doing this until the "Browse" screen appears. The words "FROM" and "TO" appear at the left of the screen. Now all possible names within a limited range are shown. Like so...

(By touching "FAST" or "SLOW" you may see what comes before or after the authors on the screen.)

Now touch "Bronowski, Jacob".

The terminal will respond with:

THERE ARE 17 ENTRIES. TOUCH YOUR CHOICE TO SEE FULL RECORD.

501
Bronowski, Jacob, 1908-1974
The ascent of man

START OVER | SCROLL UP | BACK UP | HELP

By touching "SCROLL UP" **you will see the other 16 entries. Continue until you have seen all you wish to see.**

By touching any part of the entry you will see the full catalog record...

CALL	501
AUTHOR	Bronowski, Jacob, 1908-1974
TITLE	The ascent of man
EDITION	[1st American ed.]
IMPRINT	Boston, Little, Brown, 1974
DESCRIP	448 p. illus. 26 cm
SUBJECT 1	Science -- Philosophy
SUBJECT 2	Science -- History
SUBJECT 3	Man
CALL	501

PUB	PUBYR	COST	MC	L.A.D.
	1974	15.95	B	1/30/85

"COPIES AT THIS LOCATION"

LOCATION	BARCODE	L.A.D.	STATUS
IMD	1978 00535 5433	1/17/85	ON SHELF

ADD'L COPIES | BACK UP

Towards the bottom of the screen you see that one copy is owned by Central Library (IMD), **and it is on the shelf. By touching** "ADD'L COPIES" **you would see that there are 15 other libraries in the system that have this book. If** "ADD'L COPIES" **is still displayed touch again to see still more copies.**

If this had been a children's book, the letter "j" **would be in front of the call number, like this:** j501.

Sometimes there is too much information for one screen. When this happens, you will see the words "PAGE NEXT" **at the bottom. Touch it to see more.**

Touching the words "BACK UP" **is like flipping back one page. Touching** "Prior Copies" **is also like flipping back one page.**

Looking up books or records by title, subject or series works the same way. Always touch the line that comes *before* **your title or subject.**

For more instruction, touch "HELP" **or ask a librarian for assistance. Contrary to what some have thought touching** "HELP" **doesn't get you a librarian! But they'll be happy to assist you.**

AGENCY LOCATION GUIDE

IMD	-- Central	LAW	-- Lawrence
BTW	-- Brightwood	MAR	-- Marwood
BR—	-- Broad Ripple	NOR	-- Nora
BDY	-- Broadway	PIK	-- Pike
BRN	-- Brown	PRO	-- Prospect
EAG	-- Eagle	SH—	-- Shelby
EW—	-- E. Wash.	SO—	-- Southport
EM—	-- Emerson	SP—	-- Spades
EXT	-- Extension	WNK	-- Wanamaker
FH—	-- Flanner House	WRN	-- Warren
HV—	-- Haughville	WAY	-- Wayne
HOS	-- Hospital	WI—	-- West Indpls.

Critical Thinking Skills: The Role of the School Library

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Washington Township Public Library
Dayton, Ohio

Cognitive Theory and School Library Instruciton

For several years a trend in school library bibliographic instruction has been the emphasis on helping students develop critical thinking skills. This trend continues but is being studied in more depth and being elaborated on based on research in cognitive development. Current trends include the focus on process rather than content, an example of which is the free inquiry method of learning, and the focus on library users, their development levels and the skills they bring with them to the library.

For some time a trend in education has focused on the development of critical thinking skills in students. Lately, new approaches to the teaching of critical skills have been based on cognitive learning theory. Many of these theories have existed for awhile but are being focused on anew. For example, Piaget described how cognitive abilities develop in a sequence of stages beginning with sensorimotor skills up to the formal operations stage which usually occurs sometime in sixth grade or after. Schema theory describes how learners must be able to accommodate information in terms of what they already know and apply it in real situations.[1]

The new focus on theories such as these has led to a new emphasis on library users and the skills, attitudes, and development levels they bring with them to the library. Critical thinking activities should be designed to match the cognitive levels of library users.[2] For example, in the elementary grades students are not really ready to move beyond locating and using sources. In junior high they should, with lots of guidance, be gaining practice in evaluating and synthesizing sources and information, while senior students should be given the opportunity to carry out these activities independently. In lower grades students need practice brainstorming in groups and attacking assignments. As they grow older they begin to analyze sources for qualities such as currency and they begin to think in terms of key words and descriptors. Finally, in senior high they are ready to design search strategies.

When the theory of levels of cognitive development is applied to senior high school libraries, the implication should be that students are ready for fairly sophisticated thinking and evaluation of sources. At their age level they are capable of such activities but it may not always be safe to assume they have practiced these

activities or have even received the background they need to move into these activities without some lower level learning as an introduction. As Kuhlthau emphasizes, there is a need to analyze users and determine their skill levels and attitudes when they begin an assignment.[3]

Process Over Content

Another current focus related to cognitive theories is the emphasis on teaching students processes rather than sources. The process approach focuses on the evaluation of sources and their information and promotes more flexible problem solving skills. Therefore, students are able to proceed to a higher level of cognitive development than they can with approaches that emphasize locating sources.

One type of process approach is the free inquiry method.[4] In this approach, students are encouraged to form questions and use the library as a laboratory to find answers and raise still more questions. The library is more suited to accommodating this more flexible type of learning than the classroom. In the library, students can work at their own pace and pursue their own interests with a variety of types of materials.

Free inquiry exercises are also related to another theory which has been in existence for a while. Taylor describes four levels of information including the visceral or unfocused need, the conscious but unexpressed need, the formalized need, and the compromised need expressed in tems believed to be suitable to the library tools. As Kuhlthau states, the library should be more accommodating to students' information needs on all levels, not just the last. In the free inquiry approach, students are given the time and flexibility to work through their levels of need and recognize when they change.[5] They can use librarians, teachers, and fellow students as resource persons.

School Librarians' Roles

The role of the school librarian is a significant one in the development of these trends. The role can no longer be reactive or even proactive but instead must be interactive.[6] This means school librarians can no longer be willing just to gather materials and be supportive to teachers' efforts. Because the library is uniquely suited to the development of critical thinking skills, librarians must accept responsibility for a leadrship role in their promotion.

Librarians need to encourage teachers to include assignments which develop critical thinking skills in their courses. Librarians can play a more active role in the development, teaching and evaluation of lessons that develop critical skills. It has been suggested, for instance, that librarians grade assignments for process comprehension while teachers grade assignments for content comprehension.[7]

Beyond this level of involvement, however, librarians should play a unique role in the development of curriculum. Because they work with students doing assignments in many subject areas, they are the professionals who can see how critical thinking skills apply across the entire curriculum.[8] Librarians can work to see that entire information comprehension units are included in the planning for courses. Carolyn Markuson has even recommended that librarians challenge publishers to include more thinking activities in textbooks.[9]

The emphasis on critical thinking has also changed the role school librarians play with students. The primary goal is not necessarily to find answers for students but to help

students ask more and better questions. The question librarians ask themselves when dealing with a student may not be, "What source can I present to this student in order to complete a desired end product?" but instead, "What guidance and reassurance will this student need and what skill development needs to take place?"

Conclusion

School librarians have long desired to be considred on the same level as teachers. With the emphasis on critical thinking skills and more in depth understanding of how to develop these skills, librarians should begin acting as teachers. The library is the logical laboratory for learning information comprehension and evaluation skills, and the librarian is the logical coordinator, instructor, and advocate of these skills.

Notes

[1]Carol Kuhlthau, An Emerging theory of Library Instruction," *School Library Media Quarterly*, 16:1 (Fall 1987), pp. 23-28.

[2]Kuhlthau, p. 25.

[3]Kuhlthau, pp. 25-26.

[4]Daniel Callison, "School Library Media Programs and Free Inquiry Learning," *School Library Media Quarterly*, 32:6 (February 1986), pp. 20-24.

[5]Kuhlthau, pp. 25-26.

[6]Daniel Callison, "Evaluator and Educator: The School Media Specialist," *Tech Trends*, 32:5 (October 1987), pp. 224-229.

[7]Carolyn Markuson, "Making it Happen: Taking Charge of the Information Curriculum," *School Library Media Quarterly*, 15:1 (Fall 1986), pp. 37-40.

[8]Jacqueline Mancall, Shirley Aaron, and Sue Walker, "Educating Students to Think: The Role of the School Library Media Program," *School Library Media Quarterly*, 15:1 (Fall 1986), pp. 18-27.

[9]Markuson, p. 38.

Bibliographic Instruction and User Education: A New ILA Discussion Group

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A library is more than just a warehouse for books, magazines and videotapes; the role of the librarian goes far beyond that of a mere custodian of knowledge. A library's mission is to organize information, store information, and make that information available to those who need it. We teach users how to find the information they need. This is what librarians do . . . every day.

The work of helping users find information is not limited to school librarians or to reference librarians in college libraries. User education is more than helping the term paper writer. Anne F. Roberts defines this activity succinctly (1982):

> "Library instruction" as we think of it today, refers to the use of buidings, locations, facilities, and materials in teaching users how to employ libraries to handle their information needs. (p. 15)

Schools of library and information science now introduce students to basic concepts of user education. But how do we get practical new ideas after graduation? What about those of us who graduated ten or more years ago when bibliographic instruction was rarely discussed in the classroom? How do we keep up with new concepts and theories or new technological developments? Where can we get ideas to use in solving a particular problem? As budgets shrink, we depend on resource-sharing with our sister libraries throughout the state; it seems only natural to share our ideas and skills as well as our collections.

A New Discussion Group

In early 1988, the Indiana Library Association (ILA) Board approved a petition establishing a Bibliographic Instruction and User Education Discussion Group. Signed by more than 25 Indiana librarians, the petition read in part:

> Although there are several organizations . . . that provide a national forum, there is a need for a local (Indiana) forum. an ILA Discussion Group . . . would meet this need. It could provide a comfortable, easily accessible forum for the discussion and exchange of ideas and expertise among Indiana librarians.

The first meeting of the Steering Committee was held June 24, 1988. The group represents a wide range of libraries and locations. Members include:

- Jim Cline, LaPorte County Public Library

- Margit Codispoti, Walter E. Helmke Library, Indiana University-Purdue University, Fort Wayne
- H. Scott Davis, Indiana State University Libraries
- Barbara J. Elliot, Bluffton-Wells County Public Library
- Jill Gremmels, DePauw University Library
- Janet Meek, University of Evansville Library
- Marsha Miller, Indiana State University Libraries
- Sally Jo Milne, Good Library, Goshen College
- Ingrid Norris, Lake County Public Library
- Emily Okada, Indiana University Libraries, Bloomington
- Mary Popp, Indiana Univeristy Libraries, Bloomington
- D'Anna Shotts, Indianapolis-Marion County Public Library
- Arena Stevens, Indiana University Northwest Library, Gary
- Byron Swanson, Indiana State Library
- Nancy Totten, Indiana University Southeast Library, New Albany

Goals and Objectives

As one of its first actions, the Steering Committee adopted goals and objectives to guide the group's activities. These goals were developed to assure that the discussion group acts as a statewide body for everyone active or interested in bibliographic instruction and user education, whether in an academic, public, school or special library. It was a lso felt that the goals should help further the cause of libraries as vital centers of information and resources for cultural, recreational and educational pursuits accessible to all segments of the population.

Goals. The goals of the new ILA Discussion Group are:

1. To increase awareness of user education as an essential library service and to play an active role in the development of ILA policies promoting user education.

2. To provide a forum for broad discussion of user education issues within Indiana libraries.

3. To provide opportunities in which library workers from all types of libraries and from throughout the state of Indiana can share user education ideas, materials, and solutions.

4. To help practitioners develop, improve, and promote user education by providing information, skills and tools.

Objectives. Objectives adopted to meet these goals are:

A. To review the current Indiana clearinghouse for user education materials and to broaden its scope.

B. To sponsor workshops, conference programs and informal discussions on topics of interest in user education and bibliographic instruction.

C. To publish articles, bibliographies and other useful information.

D. To develop a formal network of user education librarians in the state of Indiana who share ideas, information, and materials.

Work has begun on most of these objectives. The Discussion Group co-sponsored a Fall 1988 workshop with the ILA Reference Division. Clearinghouses in Indiana are being reviewed and several plans explored. A survey of libraries in Indiana to determine their user eduction activities will be sent out in early 1989. The result will be a directory of Indiana instruction/

user education programs and contact persons. The Discussion Group also plans to sponsor a program at the ILA conference in May.

An Active Membership

Many issues—oneline catalogs, end-user searching, accountability and evaluation, the development of critical thinking skills—face us as we promote library and information literacy. We can deal with these issues better if we pool our ideas and share our successes and failures.

Anne F. Roberts (1982) reminds us that

> Library instruction programs have similar goals in whatever types of libraries they occur. Instruction librarians share mutual concerns and common efforts in trying to meet the same ends—to get users to locate information efficiently and effectively—and they use the same skills to accomplish their goals. . . Instruction librarians in academic, school, public, and special libraries can all learn from each other and try out the various methods and techniques that have been developed. (p. 21)

The new ILA Discussion Group needs members from all types of libraries. It needs people who want to do more than just pay their dues, people to establish a tradition of active membership in which projects are undertaken because members see a need.

You have the opportunity to shape this new ILA Discussion group on Bibliographic Instruction and User Education. Contact:

Emily Okada
Undergraduate Library Services
Library W121
Indiana University
Bloomington, IN 47405
(812) 855-9867

Reference

Roberts, Anne F. *Library Instruction for Librarians.* Littleton, Co.: Libraries Unlimited, 1982.

CALL FOR PAPERS

Practitioners, educators, and researchers are invited to submit manuscripts for publication in the Indiana Library Association sponsored journal *INDIANA LIBRARIES*.

If you have an idea for a paper or you want to discuss a possible topic, contact Daniel Callison, School of Library and Information Science, Indiana University, Bloomington, IN 47405; or call (812) 855-5113, or 855-2018.

Most manuscripts need not exceed ten double-spaced, typed pages, although longer manuscripts are welcome. Manuscripts may concern a current practice, policy or general aspect of the operation of a library system in Indiana. Editorials or opinion papers are also welcome, and should not exceed five, double-spaced, typed pages.

Specifically, ideas and manuscripts associated with the following topics are welcome, although any aspect of library practice in Indiana will be considered.

CENTRAL TOPICS FOR 1989-1990

PUBLIC RELATIONS. Examples of strong public relations efforts which have increased or changed public services of the library should be covered. Examples of flyers, news articles, or special campaigns to win over public opinion can be included.

EVOLUTION OF THE SMALL, RURAL PUBLIC LIBRARY. How have the rural libraries of Indiana changed over the past three decades?

WRITING THE ANNUAL REPORT. Examples of unique reports to supervisors, governing boards, or organizations should be given. What message do you need to convey, and how do you do it?

WEEDING THE COLLECTION. What are the policies and procedures for evaluation of the collection and determining those titles which must be removed? What happens to those titles after they leave your collection?

NEEDS IN LIBRARY EDUCATION. What are the areas of library education which the library schools and/or continuing education fail to address? What programs need to be developed for education of professionals in library management?

NONPRINT CORE COLLECTIONS. What are the basic nonprint needs of the public and academic library? What nonprint services can the school libraries provide to the community? What sources are best for the current video and audio compact disc revolution?

CIRCULATION WITH THE COMPUTER. What has been your experience with the use of a computerized circulation system? Have the records you keep and the collection development questions you ask changed since the system was placed into operation?

COLLECTION DEVELOPMENT. Examples of collection policies, discussion of censorship issues, methods used to evaluate community needs, review and evaluation of selection tools for specific areas of the collection, and methods for using data to make selection decisions. How are these methods practiced and who takes the responsibility?

HISTORY OF LIBRARIES IN INDIANA. We are always seeking a good historical sketch of a library in Indiana. Who was responsible for founding the library? What has been the evolution in services? Photographs from all time periods are welcome.

MANUSCRIPT SUBMISSIONS

Preparation: All manuscripts must be double-spaced throughout with good margins. Writers are encouraged to use the format described in Kate L. Turabian's *A Manual for Writers of Term Papers, Theses and Dissertations*, 4th ed., with footnotes at the end of the manuscript. They may, however, use another style manual with which they are familiar. Writers should be identified by a cover sheet with author's name, position and address. Identifying information should not appear on the manuscript.

Photographs or graphics are welcome and should accompany manuscript if applicable. Contributions of major importance should be 10-15 pages double spaced. Rebuttals, whimsical pieces, and short essays should be 2-7 pages doubled spaced.

Processing: Manuscripts will be acknowledged upon receipt, and a decision concerning use will be made twenty days after the issue manuscript deadline. The editor reserves the right to revise all accepted manuscripts for clarity and style. Upon publication, the author will receive two complimentary copies.